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ABSTRACT

This guide is a useful resource for educators who would like to begin using portfolios in the classroom. The three major types of portfolios are working portfolios (collections of work in progress), display portfolios (also called showcase or best works), and assessment portfolios. These types are distinct in theory, but tend to overlap in practice. Once the purpose of the portfolio has been determined, the steps in the portfolio development process are: (1) collection; (2) selection; (3) reflection; and (4) projection. Projection, in the portfolio process, means looking ahead and setting goals for the future. Portfolios are best used in the classroom when they are used as a stimulus for students to produce imaginative and creative work, and when students are encouraged to analyze their own progress and to produce answers to open-ended questions. There are many logistical challenges to the use of portfolios, and it is essential not to undermine their instructional benefits by using them prematurely for high-stakes assessment. Many of the assessment tasks of portfolios can be achieved through well-designed performance tasks. It is the collection and reflection aspects of portfolios that make them such a valuable assessment tool. Some practical suggestions are offered for portfolio management. (Contains 8 figures and 58 references.) (SLD)

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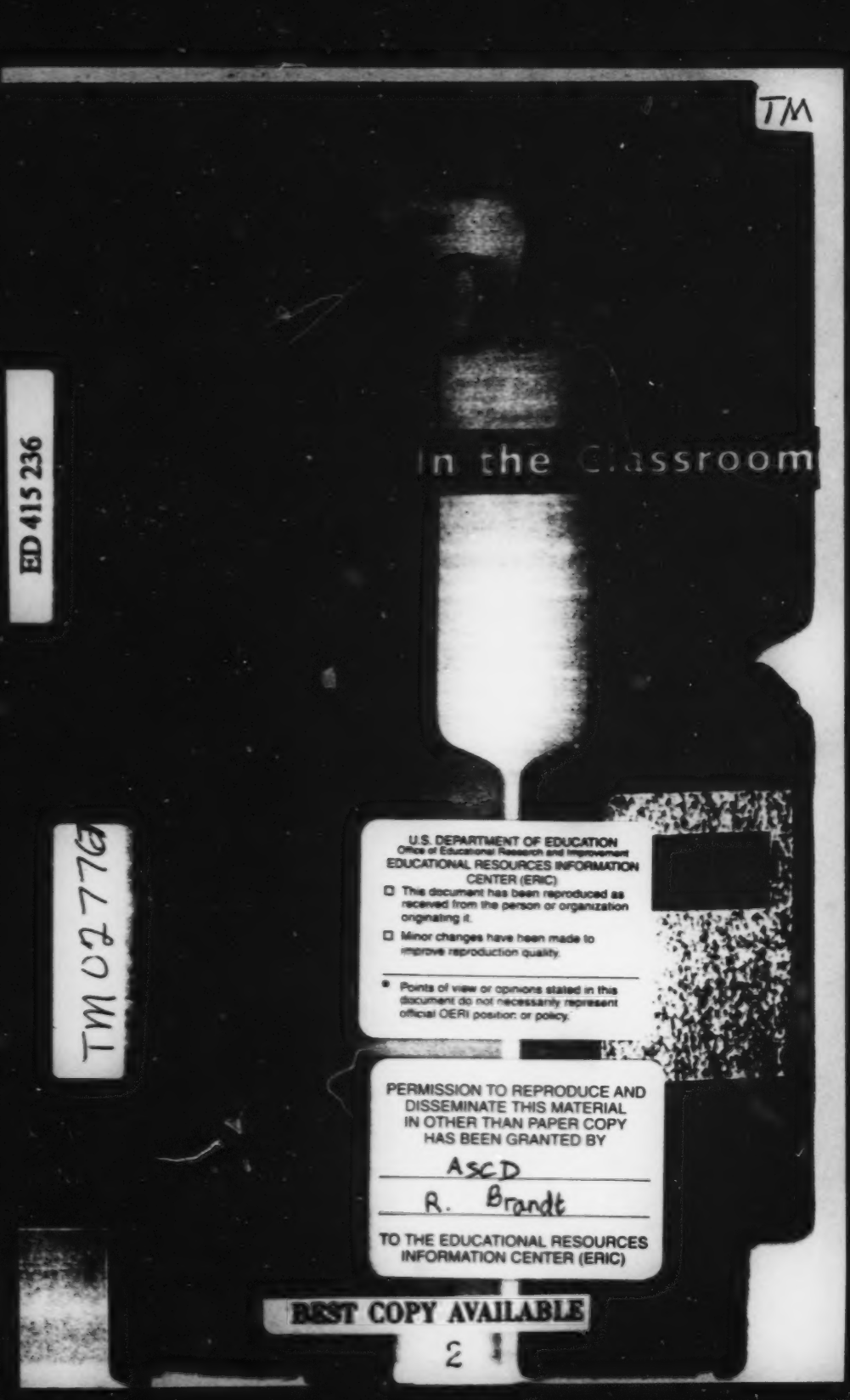

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An Introduction to Using *Portfolios* In the Classroom

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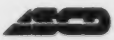

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An Introduction to Using Portfolios in the Classroom

Introduction v

1. The Types of Portfolios 1

2. The Portfolio Development Process 10

3. The Benefits of Portfolios 19

4. The Challenges of Portfolios 40

5. Portfolio Management 58

Bibliography 71

About the Authors 75

Introduction

It is no wonder that portfolios have become so popular among educators. We seem to have discovered a single strategy that does it all, allowing us to achieve many of our most important, though sometimes elusive, goals. According to accounts from both researchers and practitioners, portfolios can serve to:

- Engage students in learning content;
- Help students learn the skills of reflection and self-evaluation;
- Document student learning in areas that do not lend themselves to traditional assessment; and
- Facilitate communication with parents.

Of course, the portfolio is not a recent invention. The concept has long existed in many fields outside the classroom. Artists, architects, and photographers use portfolios to illustrate their work to potential clients; financial advisers speak of a client's *investment portfolio*; and the British government traditionally refers to an area of Cabinet responsibility as a *portfolio* (the *Foreign Office Portfolio*, for example).

In education, however, portfolios are a relatively recent phenomenon and their full potential is only now being explored. As recently as the early '90s, according to Linda Polin (1991, p. 25), the use of portfolios for the purposes of assessment was mostly talk; since that time they have burst onto the scene in a wide range of roles. This book offers a survey of the various uses for portfolios, as well as some guidance on strategies to enhance their effectiveness for both assessment and instruction.

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What Are Portfolios?

Many educators have provided definitions for portfolios:

- "A portfolio is a record of learning that focuses on the student's work and her/his reflection on that work. Material is collected through a collaborative effort between the student and staff members and is indicative of progress toward the essential outcomes."—National Education Association 1993, p. 41
- A portfolio is "a purposeful collection of student work that tells the story of a student's efforts, progress, or achievement. It must include student participation in the selection of portfolio content, criteria for selection, criteria for judging merit, and evidence of student self-reflection."—Arter 1990, p. 27
- "A portfolio must be much more than just some 'stuff' students produce and teachers save. Product portfolios involve a systematic collection of student materials consistently used by most or all teachers and students across curriculum content areas and across the school district to validate growth and abilities."—Kingmore 1993, p. 9
- "A portfolio is more than just a container full of stuff. It's a systematic and organized collection of evidence used by the teacher and student to monitor growth of the student's knowledge, skills, and attitudes in a specific subject area."—Vavrus 1990, p. 48
- "Used as an assessment framework, portfolios are systematic collections by students and teachers that serve as the basis to examine 'effort, improvement, processes, and achievement as well as to meet the accountability demands usually achieved by more formal testing procedures.' "—Johns 1992, p. 10

Some writers, commenting on the extraordinary range of meanings associated with the word *portfolio*, have concluded that the concept is devoid of useful meaning. Others, however, recognize that the multiple definitions merely emphasize the authors' envisioned differences in purpose. In any event, some degree of confusion is inevitable, particularly for a concept as relatively new as the portfolio in the context of education. With the many different examples, educators are in the position of "an early biologist trying to define *mammal* when presented with a whale, a human being, and a bat" (Graves and Sunstein 1992, p. 115).

For all their differences in emphasis, most definitions share certain essential characteristics. First, portfolios consist of *collections* of student work: a number of pieces of work produced by individual students. Second, the collections are *purposeful* rather than random. As stated by Judy Arter (1990, p. 1), ". . . a portfolio is more than just a folder of student work. Portfolios need to be a sample of student work assembled for a particular purpose." And, third, most descriptions of portfolios include the opportunity for students to comment or reflect on their work.

The principal differences among the approaches to portfolios concern their use in assessment. If portfolios are to be used for the purposes of assessment (particularly for high-stakes assessment), they must be designed somewhat differently than if their purposes are purely instructional. Evaluation standards and other factors must be clearly defined and rigorously applied. This issue is explored more fully in Chapter 4 (The Challenges of Portfolios).

In spite of the essential similarities among the various definitions of portfolios, there are many differences in the ways portfolio systems are implemented. Some of these differences reflect the purposes (primarily for assessment or primarily for instruction) to which the portfolios are put. Other differences reflect the philosophies of the educators putting the systems into effect. Among these differences are the following:

- Is the content of the portfolios standardized, or nonstandardized?
- Who selects the works? The teacher? The students? Both teachers and students?
- Does the portfolio document longitudinal growth over several years, or is it confined to learning within a single year?
- Do the portfolio entries include rough drafts or only final work?
- Does the portfolio include only *best* works, or do students include work they would like to revise?
- How many different disciplines are represented in a single portfolio? Portfolios have been well established in language arts, specifically for writing, but what about other disciplines? And should all disciplines be included in one portfolio or in many portfolios?
- Should students be encouraged to add portfolio entries from their lives outside of school? Or should the portfolio be confined to documenting school learning?

The Purposes of Portfolios

In recent years, portfolios have become a favorite innovation of educational reformers. Although portfolios have been put to many different uses, their employment in assessment caught on quickly. According to Donald Graves (1992, p. 115), "at the 1990 Atlanta NCTE convention, Dan Kirby quipped that the term *'portfolio* transformed into *portfolio assessment* within hours' of its introduction into language arts." The *assessment* concept has nearly pre-empted other ideas about the purpose or potential of portfolios.

In reading the portfolio literature of the past several years (which has been voluminous), one can easily come away with the impression that portfolios can do everything, possibly even paint the house! *Portfolio News*, a publication of the Portfolio Assessment Clearinghouse in Encinitas, California, lists 35 purposes for portfolios (ranging from helping students and teachers set goals to assessing curriculum needs) identified by California English language arts teachers in 1990. Ruth Mitchell (1992, p. 104) clustered these into the major categories of instruction, professional development, assessment, and research.

While the many purposes for portfolios present a somewhat daunting picture for the novice, it is important to keep the issue in perspective. Portfolios are, to be sure, a powerful tool for teachers to add to their repertoire. But, as with any tool, they are better used for some tasks than others. It is our hope that this book will help educators clarify their purposes in using portfolios and provide some practical guidance to get started.

1 The Types of Portfolios

As more and more educators use portfolios, they increasingly recognize that the process has the power to transform instruction. Some teachers, however, are confused by the many types of portfolios, their different uses, and the practical issues surrounding storage, ownership, and the like.

The three major types of portfolios are: working portfolios, display portfolios, and assessment portfolios. Although the types are distinct in theory, they tend to overlap in practice. Consequently, a district's program may include several different types of portfolios, serving several different purposes. As a result, it is important for educators to be clear about their goals, the reasons they are engaging in a portfolio project, and the intended audience for the portfolios.

Working Portfolios

A working portfolio is so named because it is a project "in the works," containing work in progress as well as finished samples of work. It serves as a *holding tank* for work that may be selected later for a more permanent assessment or display portfolio.

A working portfolio is different from a *work folder*, which is simply a receptacle for all work, with no purpose to the collection. A working portfolio is an intentional collection of work guided by learning objectives.

Purpose

The major purpose of a working portfolio is to serve as a holding tank for student work. The pieces related to a specific topic are collected here until they move to an assessment portfolio or a display portfolio, or go home with the student. In addition, the working portfolio may be used to diagnose student needs. Here both student and teacher have evidence of student strengths and weaknesses in achieving learning objectives, information extremely useful in designing future instruction.

Audience

Given its use in diagnosis, the primary audience for a working portfolio is the student, with guidance from the teacher. By working on the portfolio and reflecting on the quality of work contained there, the student becomes more reflective and self-directed. With very young children, however, the primary audience is the teacher, with the participation of the student.

Parents may be another important audience of a working portfolio, since it can help inform parent-teacher conferences. The portfolio is particularly useful for those parents who do not accept the limitations of their child's current skills or do not have a realistic picture of the way their child is progressing compared with other children. In such situations, evidence from a portfolio can truly "speak a thousand words." In addition, a portfolio can serve to document the progress a student has made, progress of which a parent may be unaware.

Process

A working portfolio is typically structured around a specific content area; pieces collected relate to the objectives of that unit and document student progress toward mastery of those objectives. Therefore, sufficient work must be collected to provide ample evidence of student achievement. Because diagnosis is a major purpose of the working portfolio, some of the pieces included will show less than complete understanding and will help shape future instruction.

The working portfolio is reviewed *as a whole* and its pieces evaluated—either periodically or at the end of the learning unit. Some pieces may be shifted to an assessment portfolio to document student acquisi-

tion of instructional objectives. Other pieces may be moved to a student's own display (or best works) portfolio or celebration of individual learning. Still other pieces are sent home with the student.

As students move pieces from a working portfolio into either an assessment or display portfolio, they describe the reasons for their choices. In this process of selection and description, students must reflect seriously on their work and what it demonstrates about them as learners. As students and their teachers look through the portfolio, they set short-term objectives for achieving certain curriculum goals. The portfolio thus provides evidence of strengths and weaknesses and serves to define the next steps in learning.

Display, Showcase, or Best Works Portfolios

Probably the most rewarding use of student portfolios is the display of the students' best work, the work that makes them proud. Students, as well as their teachers, become most committed to the process when they experience the joy of exhibiting their best work and interpreting its meaning. Many educators who do not use portfolios for any other purpose engage their students in the creation of display portfolios. The pride and sense of accomplishment that students feel make the effort well worthwhile and contribute to a culture for learning in the classroom.

Purpose

The purpose of a display portfolio is to demonstrate the highest level of achievement attained by the student. Collecting items for this portfolio is a student's way of saying "Here's who I am. Here is what I can do."

A display portfolio may be maintained from year to year, with new pieces added each year, documenting growth over time. And while a best works portfolio may document student efforts with respect to curriculum objectives, it may also include evidence of student activities beyond school (a story written at home, for example).

There are many possibilities for the contents of a display portfolio. The benefits of portfolios were first recognized in the area of language arts, specifically in writing. Therefore, writing portfolios are the most widely known and used. But students may elect to put many types of

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items in their portfolio of best works—a drawing they like, a poem they have written, a list of books they have read, or a difficult problem they have solved.

Audience

Since the student selects her or his own best works, the audience for a display portfolio is that student and the other important individuals, such as parents and older siblings, to whom the student chooses to show the portfolio. Other audiences include a current teacher or next year's teacher, who may learn a lot about the student by studying the portfolio.

In addition, a student may submit portfolios of best works to colleges or potential employers to supplement other information; art students have always used this approach. The contents of these portfolios are determined by the interests of the audience and may include videos, written work, projects, resumés, and testimonials. The act of assembling a display portfolio for such a practical purpose can motivate high school students to produce work of high quality.

Process

Most pieces for a display portfolio are collected in a working portfolio of school projects. Sometimes, however, a student will include a piece of work from outside the classroom, such as a project from scouts or a poem written at home. Students select the items to be included in a display portfolio. Their choices define them as students and as learners. In making their selections, students illustrate what they believe to be important about their learning, what they value and want to show to others.

Assessment Portfolios

The primary function of an assessment portfolio is to document what a student has learned. The content of the curriculum, then, will determine what students select for their portfolios. Their reflective comments will focus on the extent to which they believe the portfolio entries demonstrate their mastery of the curriculum objectives. For example, if the curriculum specifies persuasive, narrative, and descriptive writing,

an assessment portfolio should include examples of each type of writing. Similarly, if the curriculum calls for mathematical problem solving and mathematical communication, then the display portfolio will include entries documenting both problem solving and communication, possibly in the same entry.

Purpose

The primary purpose of an assessment portfolio is to document student learning on specific curriculum outcomes. As such, the items in the portfolio must be designed to elicit the knowledge and skill specified in the outcomes. It is the assessment tasks that bring the curriculum outcomes to life; only by specifying precisely what students must do and *how well they must do it* do these statements of learning have meaning.

Assessment portfolios may be used to demonstrate mastery in any curricular area. They may span any period of time, from one unit to the entire year. And they may be dedicated to one subject or many subjects. For example, a teacher may wish to have evidence that a child has sufficient skills in a content area to move to the next level or grade. The criteria for moving on and the types of necessary evidence must be established. Then the portfolio is compiled and assessed.

Audience

There are many possible audiences for an assessment portfolio, depending on its specific purpose. One audience may be the classroom teacher, who may become convinced that the objectives of an instructional unit have been mastered or who may decide to place a student in advanced classes or special sections. Alternatively, the audience may be the school district or even the state, seeking documentation of student learning, and permitting a student to move to the high school or receive a diploma. A secondary, though very important, audience is always the student, who provides evidence of significant learning.

Process

There are eight basic steps in developing an assessment portfolio system. Since portfolio entries represent a type of performance, these steps resemble the principles for developing good performance assessments.

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(1) Determine the curricular objectives to be addressed through the portfolio.

(2) Determine the decisions that will be made based on the portfolio assessments. Will the assessments be used for high-stakes assessment at certain levels of schooling (for example, to enable students to make the transition from middle school to high school)?

(3) Design assessment tasks for the curricular objectives. Ensure that the task matches instructional intentions and adequately represents the content and skills (including the appropriate level of difficulty) students are expected to attain. These considerations will ensure the validity of the assessment tasks.

(4) Define the criteria for each assessment task and establish performance standards for each criterion.

(5) Determine who will evaluate the portfolio entries. Will they be teachers from the students' own school? Teachers from another school? Or does the state identify and train evaluators?

(6) Train teachers or other evaluators to score the assessments. This will ensure the reliability of the assessments.

(7) Teach the curriculum, administer assessments, collect them in portfolios, score assessments.

(8) As determined in Step 2, make decisions based on the assessments in the portfolios.

Challenges

Assessment portfolios raise many important practical and technical issues, particularly if they are used for high-stakes decisions. Portfolios can be used to establish that students have mastered the essential elements of the curriculum, and high school graduation can be contingent on demonstrating this mastery. In cases like this, it is essential that the procedures used to evaluate student work in the portfolio meet standards of validity and reliability.

How will student products be evaluated if student writing or mathematical problem solving is included in the portfolio? How will practitioners be sure that the products are good enough, that the work is of high quality? By what criteria will student work be judged? To answer

these questions, educators develop scoring guides, or rubrics, with clear criteria and descriptions of different levels of performance. And to ensure inter-rater agreement, they collect samples of student work at the different levels (called *anchor papers*) and conduct training sessions for assessors.

But even in a classroom environment where the stakes are lower, assessment portfolios are more formal affairs than those designed to diagnose learning needs (working portfolios) or to celebrate learning (best works portfolios). In an assessment portfolio, the content matters and it must demonstrate and document what students have learned. The origin of an assessment portfolio may be quite external to the student and his world. The mandate may come from outside the classroom—for instance, via curriculum committees and board action, or directly from the state department of education. Moreover, the eventual owner of the portfolio's contents may be someone other than the student. In addition, the selection process is more controlled and dictated, since the portfolio entries must document particular learning outcomes. And there may be no opportunity for the student to "show off" his or her portfolio.

Innovative Uses of Portfolios

A major contribution of portfolios is that they allow students to document aspects of their learning that do not show up well in traditional assessments. Some examples follow.

Community Service

Community service is now required in many schools. Since this type of activity is not well suited to traditional assessments such as tests and quizzes, portfolio assessment provides an excellent vehicle for assessing the goals of a community service curriculum. Students can collect examples of service, select the best ones, reflect on their experiences, and determine future goals. The entries in such a portfolio might include research, narrative summaries of activities performed, pictures, videos, projects, and the like. The community, in addition to the school, may be an audience for this portfolio.

Interdisciplinary Unit

An interdisciplinary unit of study that includes many different content areas is often difficult to evaluate using traditional methods of assessment. A portfolio can provide a way to include many types of work that indicate proficiency in various disciplines. Entries might show evidence of growth in a single content area or a combination of areas. The cumulative effect of work in many disciplines, all relating to a single theme or topic, can be illuminating to the student as well as to others. An interdisciplinary unit on the rainforest, for example, could culminate in a portfolio containing samples of student accomplishment in writing, math, social studies, and art.

Subject Area Portfolios

Student learning in some areas is greatly enhanced through the use of portfolios to document learning. Portfolios are well established in writing. But there are many other excellent applications of the technique. A foreign language portfolio could have cultural artifacts relating to religion, art, and celebrations, as well as evidence of written and spoken proficiency in the language. A social studies portfolio could have interviews, projects, models, and reports. And art portfolios are well recognized as the optimal means of capturing the best of student performance in the arts, with drawings, slides, and examples of music composed or performed.

College Admission

Many colleges now request samples of student work from candidates for admission. Portfolios of best works are well suited to this purpose. Anything may be included in such a portfolio, including written work, videos, or projects, and the contents may be customized to suit the purposes of the student and the institution. The goal of assembling a portfolio for college admission has the additional benefit of providing powerful motivation for students during their high school years.

Employment

Some employers request samples of work from prospective employees. As with portfolios prepared for college admissions, students

can use employment portfolios to document those features of their preparation that they believe would best convince an employer of their expertise in areas such as basic skills, problem solving and adaptability, and collaborative work skills. This movement toward employment portfolios is being fueled, in large part, by the national school to work movement, through which employers are insisting on a better-educated workforce (U.S. Dept. of Labor 1991).

Skill Area Portfolios

It is often desirable to demonstrate that students have acquired skills in specific areas, such as public speaking, problem solving, or the use of technology. Because these are assessment portfolios, attention must be paid to establishing relevant criteria, setting acceptable standards of performance, and selecting pieces that meet those standards. Because these skills also cut across disciplines, educators must determine whether students may demonstrate the skills in any manner they choose, or whether specific tasks will be established for them.

Summary

Portfolios may take many different forms and may be used for many different purposes. They may be used to diagnose, document, or celebrate learning. Regardless of their primary purpose or audience, they have the power to transform the learning environment in the classrooms where they are used. The magic of portfolios lies not in the portfolios themselves, but in the process used in creating them and the school culture in which documented learning is valued.

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2 The Portfolio Development Process

Portfolios are actually a composite of two major components, the *process* and the *product* (Burke, Fogarty, Belgrad 1994, p. 3). While there may be the temptation on the part of practitioners and students to focus primarily on the product (the completed portfolio), the portfolio development process is certainly as important. To derive the greatest benefit from the use of portfolios, it is imperative to fully understand the relationship between the development process and the product. The portfolio is the actual collection of works that results from going through the development process; the development process is at the heart of successful portfolio use. Although this process may be a radical new experience for students and initially a time-consuming one for their teachers, most find it well worth the time and effort. For them, the development process transforms instruction and assessment.

Overview

The portfolio development process consists of four basic steps: *collection*, *selection*, *reflection*, and *projection*. As might be expected, some steps are more important than others in certain types of portfolios; however each step is included to some degree in every portfolio type.

Collection

The first step in the portfolio development process is the *collection* of various pieces of student work. For teachers using portfolios for the first time, the collection step requires planning because students pro-

duce a large number of papers. Teachers will have to provide the time and space for students to assemble their work, as well as the space to store it until needed for the next step in the process.

In addition, students will need an orientation to the portfolio development process. This procedure is, after all, contrary to students' traditional expectations of school. In a traditional setting, teachers assign work, students complete it (at least so their teachers hope), they turn it in to the teacher, the teacher corrects it (or it is corrected in class), teachers return it to students, and the students then either discard it or take it home (and possibly discard it there). Students certainly don't save their work! And even if they do keep some of it, they certainly don't save *all of it*. Therefore, it is necessary for students to appreciate the value of collecting their work. They must come to understand what they can learn from saving and reviewing their assignments. This understanding will evolve slowly from experience, as students discover the value of a collection of work to examine and use to select items for other purposes. Teachers can encourage this understanding by modeling the collection process and allowing students the opportunity to question and rehearse the steps.

Generally speaking, collection is the primary activity in creating a working portfolio. Some of the pieces from this type of portfolio ultimately may be included in an assessment or display portfolio. If the class is using portfolios for writing, all writing assignments will go into the working portfolio and eventually the pieces needed for either an assessment or a display portfolio will be selected from that collection.

Defining the Purpose for Collection. Deciding which works to collect in a portfolio may seem bewildering at first, but the solution is actually quite simple. The decision about what to collect is based solely on the purpose of the portfolio and the instructional objectives to be addressed. If the portfolio is an assessment portfolio for middle school mathematics, pieces of work reflecting all the relevant curricular objectives will be collected in a working portfolio including, for example, assignments illustrating student skills in making and interpreting graphs, working with integers, and solving complex problems. If the portfolio is the culmination of an interdisciplinary unit, pieces of work relating to each subject area will be included, making it clear that the student mas-

tered skills in social studies, language arts, science, and mathematics while studying the unit.

What Not to Collect. Not all work that students do is suitable for collection in a portfolio. Teachers occasionally may assign worksheets for skill practice or exercises requiring a routine application of knowledge. These papers will contribute little to a student portfolio. Even if the knowledge and skill required are part of the objectives of a unit (the rapid mastery of the multiplication facts, for example), they may be assessed better through traditional means.

When to Stop Collecting. Collection should stop when there is *enough* work to illustrate and document that the student has learned the concepts of the unit, representing an appropriate level of difficulty. If the purpose of the unit is constructing and analyzing tables, charts, and graphs, students will experience many opportunities to learn these skills. The teacher will give many assignments related to the skills and, as they are completed, the assignments will go into the working portfolio.

Communicating with Parents. It is important to inform parents about the portfolio development process. The collection stage requires that students put their work in a container where it stays until the end of the unit or the year, at which time it is moved to an assessment portfolio or a display portfolio, or is sent home. As a result, parents may not see samples of their children's work for long periods of time.

This situation can create an interesting dilemma. While educators stress the value of parental involvement in the educational process and encourage them to become engaged in their children's learning, the portfolio process can hamper this interchange by storing student work at school. When parents (particularly parents of young children) do not see their children's work for long periods of time, they might become concerned about what their children are learning at school.

Therefore, it is imperative that teachers devise ways to allow parents to see the work in their child's portfolio. One approach is to send the portfolio home periodically and include a procedure to ensure that it is returned, preferably with comments from the parents indicating that they have looked at the portfolio with their child. Alternatively, some teachers institute *portfolio evenings* at the school where students show

the work from their portfolios to their parents. No matter which approach is taken, the result is usually wholehearted support from parents for the portfolio development process and better communication between child and parent, as well as teacher and parent.

Selection

The second step in the portfolio development process is *selection*. At this stage, students (perhaps assisted by their teachers) examine what has been collected to decide what should be moved into a more permanent assessment or display portfolio.

What Gets Selected. For a display portfolio, students select their best pieces with little regard for established learning objectives. These pieces represent what the students think of as their best work. They like each item selected, they're proud of it, and they want to show it to others. Their choices may surprise their teachers.

In selecting pieces for an assessment portfolio, students look for work that best exemplifies the criteria established for the work by the teacher, by the teacher and the students together, or by the school district or state. Regardless of the source of the selection criteria, however, students must fully understand the indicators of quality work.

The criteria used for portfolio selection should reflect the learning objectives of the curriculum. The more precisely the learning objectives are stated and the clearer the guidelines for evaluating student work, the more focused the criteria for portfolio selection can be. If, for example, the purpose of the portfolio is to assess a student's mastery of writing skills for the 4th grade year, standards must be developed for the types of writing taught. If descriptive and expository writing are the goals for the year, guidelines for those types of writing must be clarified with students so they can discern which of their pieces best exemplify the criteria.

The process of selecting items for the assessment or display portfolio combines instruction and assessment. A lesson in which the teacher explains the criteria for good descriptive and expository writing touches on instruction as well as assessment. Reinforcing the criteria for selection is another way of clarifying learning objectives. Also, by enabling students to clearly judge which of their pieces meet specific criteria, the

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role of assessment shifts away from the teacher and toward the student. Of course, this assessment is formative rather than summative because it redirects instruction and informs future learning.

How Much Is Selected? Any number of pieces may be selected for an assessment or display portfolio. For an assessment portfolio, the number should be sufficient to demonstrate the full range of learning outcomes defined in the curriculum. For a display portfolio, the number most likely will be established somewhat arbitrarily by the teacher. "Choose up to three papers from this year that reflect your best work in mathematics" is a reasonable direction to students.

Some teachers also ask students to select pieces considered unsatisfactory. (The students' reasons for their judgments are explored more fully in the *reflection* stage of the portfolio development process.) This selection activity encourages students to reflect seriously on questions of quality. The total number of portfolio pieces probably should be increased, however, if students also are selecting items that are unsatisfactory to them.

The Timing of Selection. There are several possibilities for the time when students should select pieces of work for their more permanent portfolios. Naturally, students cannot make any choices until they have completed several pieces of work. At that point, the teacher may work to incorporate the selection process into instruction, during which students alternate between collecting, selecting, and revising until they have assembled an acceptable number of satisfactory pieces.

Normally, selection occurs at or near the *end* of something: an instructional unit, a marking period, or the conclusion of a project. Alternatively, selection could occur *before* an upcoming event: just before parent conferences or before the portfolios will be displayed on special occasions. Some teachers prefer to have students make their selections at defined times during the year. The end of every marking period provides a natural time to look through the working portfolio and select pieces for the display portfolio.

Selection for the display portfolio can span more than one school year. If the purpose is to show growth over an extended period, selection will need to take place at periodic points, such as the end of primary, intermediate, middle, and high school.

Reflection

Of course, a certain degree of reflection is an essential component of selecting work for a portfolio. However, the third phase of the portfolio development process—the *reflection* phase—is a distinct stage in which students articulate (usually in writing) their thinking about each piece in their portfolio. Through this process of reflection, students become increasingly aware of themselves as learners.

For a working portfolio, student selections need not have been subjected to systematic reflection. When students move pieces from the working portfolio to either an assessment or a display portfolio, however, each piece should be accompanied by a statement written by the student (or dictated by the very young child) explaining the reasons for its inclusion.

Teaching Students to Reflect. One of the greatest differences between classrooms that use portfolios and those that do not is in the degree to which students reflect on their work. For most students, reflection is an entirely new skill, requiring much specific instruction and support. The following contrasts the role of reflection in a traditional classroom and a portfolio classroom.

A Traditional Classroom. One of the most difficult and time-consuming tasks for teachers—particularly those in traditional classrooms—is correcting student work. Unfortunately, there is little evidence that students benefit much from their teachers' comments. One student, misreading a teacher's comment "frag" (for sentence fragment) as "frog," concluded that her teacher thought the piece of writing "jumped around a lot." Even more disheartening are the students who don't bother reading their teacher's comments at all, even after the teacher has spent a great deal of time reading the work and providing written suggestions. They may simply take the paper and discard it without attending seriously to what the teacher has written.

A Portfolio Classroom. In a portfolio classroom, on the other hand, the environment is quite different. Teachers still make assignments and students still produce work. Teachers still read most student papers and comment on them. But instead of taking the papers home after they are returned, the students put them in a working portfolio. Depending on the nature of the comments, and the importance of the assignment, the

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students may elect to revise their papers at that time. Or, they may decide to revise one or more papers later when they have a number of pieces in their working portfolio and the time comes to select some for an assessment portfolio. In any event, because students know that it is their responsibility to demonstrate proficiency in certain defined learning outcomes, they are far more inclined to read and act on their teacher's comments than in a traditional classroom. If the pieces are to be included in a display portfolio, students' reasons for their choices provide valuable insights into their ways of knowing and, for the students, important experience in self-evaluation.

Because reflection is a new skill for many students, specific instruction will have to be offered. One effective strategy is to project a piece of student work (preferably from another class or another year) on the overhead projector and model the steps of reflection. Students may also be invited to suggest comments that they would make if the work were theirs: what features do they notice about it and what do they think could be improved?

Being Clear About Criteria. When students are first learning to reflect on their work, they tend to focus on superficial criteria such as neatness, length, or mechanics. While these items may be important, they rarely define excellence. Consequently, most teachers find that they must help their students in identifying the characteristics of high-quality work and recognizing it in their own and others' efforts.

Using Reflective Prompts. Many teachers begin the process of reflection with their students by providing specific open-ended prompts for student response. These can link directly to individual learning objectives and are particularly appropriate to assessment portfolios. A prompt might be "I chose this piece as an example of character development because . . ." or "This problem shows my skill in mathematical reasoning because . . ." Other prompts may be more general and more suited to a display portfolio:

- "I like this piece of writing because I . . ."
- "I have improved in my ability to . . ."
- "One thing I still need to work on is . . ."
- "One thing I used to have trouble with but now I can do is . . ."

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There is no need for students to write a great number of reflective comments about a piece of work. The process should not become onerous. Generally, one insightful comment about a portfolio entry is preferable to several superficial comments.

Writing an Introduction. For certain types of portfolios, particularly display portfolios extending over a long period of time (such as an entire year), a student introduction can provide a rich opportunity for reflection. In writing an introduction to an entire portfolio, students must reflect on and critique an entire body of work. They must compare different pieces with one another, recognize patterns in their work, and interpret the meaning of the whole collection. Such an opportunity for meaningful synthesis is rare in schools. Students will become more skilled as they have more chances to do such work.

A Classroom Environment for Reflection. Establishing a classroom atmosphere conducive to reflection is important. There are several steps a teacher can take to promote the success of the reflective process:

- Allow students to work with a partner at first. Working cooperatively may generate more ideas and students will not feel isolated in their work.
- Let students practice developing reflective comments. Afterward, ask them to volunteer to share their comments to provide examples.
- Stress that there is no right or wrong way to reflect. This will encourage students to be more open.
- Set aside specific times just for reflection. This is essential to a successful portfolio program. Reflection is more likely to occur when an adequate amount of time is set aside for this purpose.
- Establish an atmosphere of trust. Students are being asked to be open about their accomplishments or limitations, and it is not easy to do so in an atmosphere where they fear ridicule.

Projection

The final stage of the portfolio development process is *projection*. Projection is defined as looking ahead and setting goals for the future. At this stage, students have the opportunity to look at their work as a

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whole and make judgments about it. Many types of realizations can take place in reviewing display or assessment portfolios. An objective look at an entire portfolio allows students to see patterns in their work. As a result, they might notice that their narrative writing is stronger than their expository writing or that their mathematical charts and graphs are handled with more sophistication than their solutions to complex problems. These observations can help to identify goals for future learning.

Summary

Many educators find that the use of portfolios changes the entire landscape of instruction and assessment. Clearly, instruction and assessment become intertwined at every stage of the portfolio development process. The teacher will have articulated the purpose of the instructional unit and will have explained to students how they may demonstrate mastery of the relevant skills. For their part, students examine their own work in light of the criteria and standards established by the teacher (probably with participation by the students) and revise it to meet these standards. The teacher no longer sits alone in judgment of the student. The students are judging their own work and improving it where needed.

As students reflect on their work and select the pieces that best illustrate their knowledge and skill, they become increasingly in charge of their own learning. They become aware of their learning and thinking and come to see themselves as capable of producing many different types of work. This greater metacognitive awareness is one of the principal results of the use of portfolios.

3 The Benefits of Portfolios

In the schools where they have been widely used, portfolios have been credited with transforming the learning environment in ways that even their strongest proponents had not anticipated. Ruth Mitchell (1992, pp. 103-108) clustered the powerful consequences of portfolio use into the categories of: instruction, professional development, assessment, and research. To these we add the essential area of communication with parents and the larger community.

It should be noted that the benefits of portfolios result principally from the process of building and using them. While the portfolios themselves have value, particularly in the area of assessment (permitting the evaluation of a wide range of outcomes and documenting growth over time), it is the process of creation that offers great power to educators. Students become highly engaged in their own learning through the steps of selection and reflection, assume considerable responsibility for that learning, and enter into a different relationship with their teachers, one characterized as more collegial than hierarchical.

Portfolios have been found to exert a powerful influence on school culture, affecting areas at the heart of the school and its mission: assessment, parent communication, professional development, and action research. They serve as a vehicle to focus the attention of students, parents, and teachers on what students are learning, how well they are learning it, and how they demonstrate that learning. Very few educational innovations can make such broad claims.

Assessment

A majority of educators experienced a traditional view of assessment in their own schooling and professional preparation. A given body of content was taught, some activities occurred (discussions, worksheets, panel discussions, etc.), and a test was administered. The test was corrected, possibly reviewed in class, and handed back. That was the end of the matter.

In a portfolio classroom, by contrast, assessment plays a much different role. Far more of the student work is evaluated through self-assessment, rather than teacher assessment. When students select finished work for their best works or display portfolio, they evaluate it carefully and frequently strengthen it with revision. And, when doing the work initially, students often engage in preliminary self-evaluation and revision to ensure that the pieces are as good as they can be from the outset. Assessment, therefore, becomes more formative (and less summative) in classrooms where portfolios are used.

Many educators were first introduced to portfolios as an improved technique of assessment and, for many, this is their major benefit. Teachers have quickly recognized that portfolios enable them to assess, in an authentic manner, the new content standards that may have been adopted by their school district or state. Included in this consideration of assessment are: outcomes that may be examined, clarity of expectations, considerations of longitudinal growth, student involvement, attention to individuals, and the altered relationship between assessment and instruction.

Outcomes Assessed

Educators have long recognized the gulf separating daily practice in the classroom and the types of tests to which their students have been subjected (and by which their own effectiveness was sometimes evaluated). One aspect of this gulf lies in the types of educational outcomes assessed. Standardized, norm-referenced, machine-scorable multiple-choice tests are a quick, efficient, and inexpensive way to evaluate certain limited goals of schools—primarily, students' acquisition of bits of knowledge. If created by expert developers, these tests also can evaluate a small range of more complex outcomes,[5] such as students' knowl-

edge of concepts and their skills (interpreting graphs, for example). They are of little value in evaluating any *generative* goals in which students must *produce* a response, such as skill in writing a persuasive essay, solving a nonroutine problem, or designing an experiment to test a hypothesis. Portfolios, on the other hand, may contain exactly this type of student work and allow students, teachers, and parents to examine it.

Traditional testing and the reports produced for schools and districts are not particularly revealing about what students actually know and can do. Since the scores are typically reported as percentiles, normal curve equivalents, or stanines (all of which compare students with others), all we know is that a certain student (or the average score of all the 3rd graders in a certain school, for example) performs at a certain level (such as the 54th percentile in math concepts). We can discern which students have (or have not) understood *which* concepts only if we dig very deeply and if we have requested the necessary reports from the scoring service. All of this effort assumes a certain validity, namely that the given test items do actually assess students' understanding of the concepts in question and that these concepts are important in the school's curriculum. Many educators have concluded that they can learn far more about their students' learning by presenting students with tasks that require the use of the skills and knowledge they want to assess and evaluating their performance on those tasks.

This is not a trivial matter. Many educators, legislators, policy makers, and writers have recognized for some time that a traditional school curriculum, well assessed through multiple-choice tests, is inadequate for our workforce of the future. Fill-in-the-bubble tests, notes Lauren Resnick, co-director of New Standards, "are reliable and were well suited to the mass-manufacturing economy that grew up in this country in the early 1900's, but they don't work anymore . . . That kind of learning prepared workers well enough for factory work that called for breaking complex jobs down into simple rote tasks" (Viadero 1994, p. 2).

To be competitive in the future, companies will have to demand more of their workers. In high-performance workplaces "individuals will have to think their way through their workdays—analyzing problems, proposing solutions, trouble-shooting and repairing equipment, com-

municating with others, and managing resources of time and materials." These observations elaborate the major points of the report from the Commission on the Skills of the American Workforce, *America's Choice: High Skills or Low Wages!* (1990). According to this report, the gap between the economic haves and have-nots will gradually widen if the United States continues to rely on a low-skill manufacturing economy, with the nation as a whole sliding into relative poverty compared with other industrialized countries.

Clarity of Expectations

Clarity of expectations is essential where self-assessment is woven tightly into the daily fabric of the classroom and requirements and standards are communicated to students and, sometimes, parents. This clarity may be new for many teachers, who may have inherited a system of textbook curriculums and standardized tests. In that traditional environment, expectations and standards rarely are made explicit and typically are not based on the shared understanding of educators.

The experience of clear expectations and standards may be new for students as well. To select—often with a teacher's assistance—a piece of writing that represents their best narrative writing effort, students must be able to recognize the components of good narrative writing and articulate the reasons a certain piece of writing is better than another. This analysis almost certainly will include more than neatness and correct spelling. It probably will contain ideas such as vocabulary choice, sentence structure, flow, and voice.

If a school has implemented a portfolio program with some consistency in the contents of student portfolios, understanding in areas such as descriptive writing will extend beyond each classroom and will be shared, at least to some extent, throughout the entire school. As students move through the grades, they can see their work more closely approximate the standards that have been established for high quality.

Longitudinal Growth

Typically, standardized assessments provide educators and the public with a snapshot in time of the levels of learning attained by students. Because most schools and districts administer standardized assessments

only at certain grade levels (for example, grades 3, 8, and 11), the group of students being assessed every year is a different set of students (a different cohort) and longitudinal comparisons are virtually impossible.

With portfolios, on the other hand, teachers are able to focus on what they care about, the development of students' individual skills and knowledge over time. Most teachers and students observe considerable growth in skill in an area such as narrative writing in the course of a single year. When portfolios follow students to the next level, those teachers are able to observe truly significant growth from one year to the next.

For students, too, the longitudinal aspect of portfolios is important. As students look back on their portfolios from earlier years, they can discern patterns and trends in their development. Herbert (1996, p. 71) interviewed 6th grade student Laurie Schultz about her portfolio. Identifying in her entries an early interest in babies and children, Laurie predicted that she would become a nurse or a teacher. Furthermore, she noted much progress in her writing. In reference to a piece from her 4th grade portfolio, she said, "This is reflective of my writing. That ending sentence was something I put in a poem I wrote in 3rd grade—one of my favorite endings." Such reflection would not be possible in a classroom culture of "hand it in, get the grade, do the next assignment."

Student Involvement in Assessment

Traditionally, classroom-based assessment has been an activity *done to* students, with teachers devising the tests, administering them, and evaluating student work. The students themselves assume a passive role in the process. Indeed, saying "I got a B" conveys the notion that a grade is *given* by the teacher and *received* by the student. Portfolios, on the other hand, alter that culture. By engaging in a portfolio process, students participate actively in assessing their own work and monitoring their progress toward instructional goals.

Attention to Individuals

In large classes, teachers must give the same assignment to many students and grade their work as quickly as possible. Standardized test results are reported as percentiles or percentages of students answering

certain questions (or certain types of questions) correctly. For these and other reasons, it is difficult for teachers to think of students in any terms other than as a large group. Educators rarely have the luxury of probing deeply into the reasons behind a student's response to an assignment. Even rarer is the opportunity to see a student's schoolwork as only a single facet of their complex individuality.

In a portfolio classroom, on the other hand, the students' individual perspectives are at the center of the discussion. If students select work for their own portfolios, those collections include things that are important to the students and represent a sort of academic self-portrait. And if, as is common in the lower grades, students also include in their portfolios items from outside school (for example, a picture of a swim team or a photograph of an uncle), their self-portraits are more than academic. It is hard for teachers to ignore the individuals in a portfolio classroom; they tend to demand acknowledgment.

Furthermore, students' comments about their work are revealing and sometimes unsettling. A student may solve a mathematical problem correctly while offering an inadequate explanation for the solution, one that reveals a fundamental misconception or only low-level rote learning of a procedure. In a traditional classroom, the teacher would have noted the correct answer and believed that all was well. In a portfolio classroom, however, the teacher could not ignore a clear sign that a student's understanding was incomplete.

In addition, portfolios enhance a teacher's awareness of the student as an individual. Through comments on their work, many students will provide teachers with glimpses of themselves as *people*, with hopes and dreams, anxieties and fears. It is difficult to think of students purely in their academic aspect once a teacher knows all of the things they *really* care about.

The Altered Relationship Between Assessment and Instruction

In a traditional setting, curriculum, instruction, and assessment may be aligned, although they are separate and distinct activities. Curriculum outcomes are determined, students engage in instructional activities to address those outcomes, and they later are assessed on their mastery of

the curriculum. Although some instructional experts recommend a formative assessment/feedback/relearning cycle, much instruction is essentially linear.

In a portfolio classroom, on the other hand, the elements of the instructional process are more intertwined. Curriculum outcomes are established, to be sure. Both instruction and assessment, however, are oriented toward the types of performance through which students can develop and demonstrate their understanding of the skills and knowledge represented by the curriculum. The process is highly iterative, with teacher and students moving forward and backward between instruction and assessment.

A teacher may assign a narrative essay after providing some instruction about the characteristics of a good narrative, as well as some suggestions about ways to write one. Students work on the assignment and hand it in. The teacher looks at their efforts and engages them (perhaps in pairs the next day) in reviewing and critiquing their own and others' work against the criteria established for a good narrative essay. Afterward, students have the opportunity to revise their work and deposit the revised essay into their working portfolio. They may then attempt another essay from scratch, re-entering the instruction/assessment cycle. These later efforts also are evaluated by both the student and the teacher and provide the basis for future instructional efforts, as well as choices for an assessment or display portfolio. Thus, the assessment truly is used in the service of instruction and involves the students in highly active roles.

Summary

In some settings, assessments are mandated by district or state agencies, with little participation by teachers. Teachers, as much as their students, feel isolated from the process. Through the use of portfolios, however, many teachers have reclaimed the assessment ground, using information from their own assessment to enhance their work with students. When used for the assessment of student learning, a portfolio is a tool that greatly benefit students, not an activity designed to "appease others" (Valencia 1990, p. 339).

Instruction

Many researchers and practitioners have found that the instructional benefits of portfolios are the most compelling reasons for their use. And they agree that student reflection on completed work is the critical element of the portfolio development process.

Teaching Important Skills

Wolf (1989, p. 35) points out that it is "reflective self-evaluation that is inseparable from pursuing virtually any kind of worthwhile work," whether as a plumber, a parent, or a musician. Excellence in any line of work requires an iterative process of reflection and self-assessment against clear criteria and high standards. While others' comments and criticism can be valuable in this process, one's own skill in monitoring and managing self-improvement is most important to achieving excellence. "Virtually every student walks out of school into years of long-term projects: raising children, building a house, running a farm, writing a novel, or becoming a better lab technician. All these projects require moment-to-moment monitoring, Monday morning quarterbacking, and countless judgments of error and worth. Unfortunately, very little in the way we now structure assessment in schools names or encourages those lifelong skills" (Wolf 1989, p. 35).

The use of portfolios not only helps students make better progress on the skills in the curriculum; it also helps them develop critical skills such as reflection and self-evaluation which are fundamental to excellence in any walk of life. These critical skills often are neglected in a traditional curriculum, making this feature of the portfolio classroom one of its principal strengths.

Student Awareness of Quality Work

When students select works for their assessment or display portfolios, they must attend to issues of quality. As they gain experience with the portfolio process, students become more sophisticated in making these judgments and include criteria beyond neatness or correctness, incorporating choices based on more important cognitive skills. Many teachers report that initial student choices are explained by phrases like "Because I like it" or "Because I got all the right answers," but these

explanations are followed fairly quickly by more sophisticated judgments. For example, a 2nd grader selected a lab report for a portfolio because "I used more science words than I used to know and my observations show good thinking" (Kingmore 1993, p. 22).

Teachers should not assume that students automatically will share their own definitions of quality or know how to critique their own work. Depending on their past experiences with reflection and judgment, students may require specific instruction on the characteristics of high-quality performance and ways to evaluate their work.

Teachers who have used portfolios in their classrooms have developed many approaches to this issue, such as asking students to select a piece of work from a collection that they think is of the highest quality and then discuss their choice with a classmate. In this procedure, students question the choices of their peers and arrive at a more comprehensive view of quality. Other teachers use techniques similar to that described by Lambdin and Walker (1994, p. 321) which involves projecting transparencies of student work for a full-class discussion of the quality of thinking and execution, followed by peer review of choices for portfolio inclusion.

Student Engagement and Motivation

A majority of teachers who use portfolios in their classrooms report a qualitatively different level of student motivation and engagement in work, particularly from older students. This development highlights the low level of engagement displayed by most students, especially high school students, in a traditional school in which alienation and "getting by" are the norm. In a traditional classroom, most teachers are troubled by this culture, but feel somewhat helpless to counteract it.

This improved student motivation is a well-documented result of portfolio use and is the principal reason that many educators endure the practical difficulties (i.e., the need for storage space, the time for students to select items and reflect on their choices) of portfolios in their classrooms. "By assessing their own progress, students became shareholders in their own destiny" (National Education Association 1993, p. 80).

When students select examples of their best work, they are forced to consider quality and the extent to which it is demonstrated in their

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own efforts. Despite the best efforts of many teachers in schools without portfolios, students too often grudgingly complete assignments, accept them in return, and file them in the circular file. The emphasis for the students is on *getting it done*, preferably with as little effort as possible. In a portfolio classroom, that culture changes. Here students select pieces of work that represent their best efforts, possibly in preestablished categories such as a descriptive essay. They find that they really do care about the quality of their work, particularly if the collection will be shared with other students or with parents. They also realize that they can improve that quality to a point where they are actually proud of it. Once students have crossed this line, which can take some time, the classroom culture is forever altered.

In a portfolio classroom, work quality matters and students are asked to comment on their own work and that of their peers. The simple addition of a larger audience (peers, outside evaluators, or parents) appears to raise the stakes for many students and inspires them to work harder and produce work of higher quality. The ability to review their own work, comment on the patterns they observe, or explain their choice of certain pieces for a display portfolio engages students in thoughtful reflection about their learning.

Shared Accountability

In a traditional classroom, many teachers feel isolated in their responsibility to ensure student learning. Of course it is rewarding when students do well in mastering difficult content and teachers can take justifiable pride in their instructional skill. But teachers also know that they must assume considerable responsibility when their students don't do as well, and this burden of responsibility can weigh heavily.

One of the enormous benefits of a portfolio program is that it permits a sharing of the accountability for student learning—with the students themselves! It is their learning, after all, and they can learn when they have attained the desired level of proficiency. Of course, students are not born knowing how to evaluate their work and improve it until it meets the established standard; however, this is a skill they are capable of acquiring and, when they do, the process of teaching is vastly more rewarding for the teacher. No longer must the teacher cajole stu-

dents into completing assignments. When students assume much of the responsibility for their own learning, that process releases significant amounts of teacher energy that can be directed toward the instructional process.

Improved Student-Teacher Communication

When teachers examine the work that their students have selected for portfolios, they frequently see new aspects of the students, particularly when they read or hear the students' explanations for their choices. Elements from students' out-of-school lives, such as a photograph of a soccer team, allow teachers to witness the things that are the most important to their students. Even when confined to school work, however, a portfolio reveals choices and rationales that could remain hidden from teachers in the course of everyday classroom life.

As a result of the elements contained in portfolios, teachers can come to view their students as complete people with deep interests and sentiments. In addition, many teachers come to see their students as the *learners* they are, attending to their own skill development. As Colorado researcher Lorrie Shepard has pointed out, portfolios offer glimpses into the learning and thinking of students by providing "a medium in which the level of 'cognitive complexity' can be displayed" (Gilbert 1993, p. 10).

With portfolios, educators also frequently learn about their students' academic skill development in areas that might have been concealed previously. Although other forms of performance may reveal some of the same dimensions of student work as portfolio entries, many teachers report seeing unknown student strengths and weaknesses through the work that students select for their portfolios. Thus, teachers receive important feedback on their own teaching and can make adjustments to ensure the success of each student in reaching the standards set in the curriculum.

Some writers view the student-teacher conference as a critical element of a portfolio classroom. In Roger Farr's (1994, p. 14) judgment, "a vital part of the portfolio methodology is the regular student-teacher conference. The one-on-one meeting uses the collection as a demonstration of the student's developing strengths and interests and as an

indicator of possible instructional focus in the future." At first, the demands on a teacher's time from such a practice may appear overwhelming. But on reflection, the benefits are clear. If a teacher schedules a conference with only one student each day in a self-contained elementary classroom, every student will be able to have four or five individual conferences in the course of the year.

Student Metacognition and Sense of Identity

For many students, the opportunity to select best pieces of work and to reflect on that work presents a previously unavailable opportunity to define themselves as thinkers and learners. This metacognition is a natural accompaniment of reflection. In determining what makes a piece of work worth saving, students must consider quality and their own processes in producing the work. In selecting the work, in commenting on it, and in reviewing the collection later, they revisit their choices and their growth.

In addition, for some students, particularly those whose learning is not well supported from home, the portfolio can help define them as learners. Jane Hansen (1992, p. 66) cites comments from a 4th grader explaining his portfolio choices to make this point:

- A drawing: "This shows I can draw pictures, because before I couldn't draw . . . "
- A draft of a piece of writing he had published in a book in the resource room the previous year: "This is the first book I wrote. I can write books."
- A piece of writing from the current year: "Before I couldn't write that good and now I can. Now I can write better and read better."

According to Hansen, "Many of the students in these inner city schools think 'I'm nobody.' Later, with a self-created Literacy Portfolio in hand, they say, 'This is me. I exist.' "

The following student comments were collected by Anita Marcocci of the Moon Area School District in Moon Township, Pennsylvania.

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"I have accomplished many things in reading and writing workshop. The most exciting has been trying to get my stories and poems published in a magazine."—Carrie, grade 5

"When I evaluate a piece, I see what I have to do for the next piece."—Lauren, grade 5

"The portfolio helps me think about what I actually learned in that paper and to remember to do certain things."—Charles, grade 5

"I will improve my spelling by using words from my own writing on my spelling list."—Aaron, grade 2

"This piece of non-fiction about the Civil War shows I can research and write about a subject and make it sound interesting."—Karen, grade 5

"Your portfolio shows you how much you have improved. You can compare your papers and see what has improved."—Charles, grade 3

"When I look at how much I have improved, it makes me feel good."—Jackie, grade 4

"We accomplished so much when we discussed the papers in the portfolio conference. I never would have learned everything I did about Sarah and the way she learned if I had just read and graded her papers by myself."—Ms L.

Special Needs Students and Portfolios

Some educators wonder if the advantages of the portfolio classroom can be extended to include students with Individualized Education Plans (IEPs). Clearly, the focus on high-quality work, the attention to reflection, and pride in accomplishment are just as valuable for special education students as for those in the mainstream. In a school with a full inclusion policy, exempting some students from the portfolio experience would only call attention to their differences.

Indeed, one could argue that portfolios are of the greatest value to special education students. Assignments may be adjusted so that they are accessible to students with special needs. If most students in a class are assigned to produce a three-paragraph essay for their portfolios, special-needs students might be asked to write only a single well-organized paragraph. Since portfolios are beneficial for documenting growth over time, special education students will have an opportunity to see their progress clearly. This feature is valuable to teachers, parents, and the students themselves.

Parent Communication

Many educators have discovered the benefit of sharing (or having the students share) student portfolios with parents. This is done in several ways, all of which have their merits.

Requesting Parent Comments on Portfolios

Many teachers who use portfolios in their classrooms have devised techniques for students to share the collections with their parents or other family members. This practice pays big dividends, in that students convey to parents the importance of their work. In many cases, it may be the first time (or the first occasion in a long time) in which parents and students have discussed the student's work. It may be necessary, however, to let parents, particularly parents of elementary school students, know in advance that they will not see many papers coming home at the beginning of school because these are being retained for possible inclusion in the students' display or assessment portfolios.

Feedback from parents is uniformly positive. As reported by Mitchell (1992, p. 1080), students in Kathryn Howard's 8th grade language arts class took their portfolios home with a parent comment sheet and then completed a reflection sheet of their own. Parent comments included suggestions to help the students continue their growth as writers, such as "Use letters to the editor," "Have writers visit the class," and "Publish a newspaper." The students' comments were poignant. "My mom learned more about the way I think." "My parents now know that I do take my work seriously and that I can be creative sometimes." "The thing that surprised me most is that she really liked it." Some teachers

report that these substantive contacts with their parents seem to endure beyond the original look at the portfolios. Students become accustomed to meaningful conversation with their parents about the details of projects they are doing for school.

Parent-Teacher Conferences

Few approaches to parent conferences are as effective as including a student's portfolio as the centerpiece of the discussion. When parents see actual samples of their child's work, they understand what the child is learning (and needs to learn) in far more meaningful ways than can ever be communicated through the educational verbiage and vague letter grades that characterize many report cards. Some teachers ask students to select one piece of work they would particularly like their parents to see. Other teachers select a few pieces of work from the period (the quarter or semester) that demonstrate growth by the child. Either or both of these strategies illustrate in powerful ways to parents the significant learning their child is undertaking.

Student-Led Conferences and Portfolio Evenings

Inherent in the concept of student-led conferences and portfolio evenings are the notions that (1) in order to truly understand a portfolio, it is necessary for its creator to explain it and (2) by explaining their work, students develop a much greater commitment to it. Such explanations are also the purpose of caption sheets attached to each portfolio entry, stating the author's purpose in making the selection. Few children, however, are as articulate in writing as they are orally, and a verbal explanation tends to be far more revealing than any written description. Furthermore, an event at the school puts the students in the spotlight and sends the important message that student work and what the students themselves have to say about it is important.

In a student-led conference, the student, teacher, and parent discuss the work a student has assembled in a portfolio. The parent asks questions, which are answered by the student and clarified, if necessary, by the teacher. In a portfolio evening, parents from an entire class visit the school on a single evening and are treated to a tour of their child's portfolio—by their child. As with student-led conferences, the teacher is present in the room but contributes only when needed.

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An important variation on the portfolio evening is to follow the individual student-parent conversations with a *fishbowl* discussion. In this format, the students sit in a circle facing one another for a discussion, while their parents sit in a larger circle outside and listen. The students engage in a conversation about their portfolio work, what they like about it, and what is hard for them. If it has been arranged, the students can respond to specific questions formulated anonymously by members of the group of parents. After a pre-arranged amount of time—generally about 20-30 minutes—the students trade places with their parents. During this segment of the evening, the students have the opportunity to listen to their parents discussing the portfolios and what they perceive to be the benefits for students.

Some teachers are reluctant to attempt such an approach, nervous that neither the students nor their parents will speak openly in front of each other. These teachers will probably be pleasantly surprised. Members of both groups appear to forget very quickly about the presence of the observers. Furthermore, it is beneficial for both students and parents to listen in on the conversation of the other group. Parents are frequently impressed by the students' obvious commitment to their work, and students are often surprised to learn that their parents are proud of them and what they are learning.

Professional Development

All educators are aware of the complexity of teaching. It only makes sense that continued excellence in such a complex field requires continuing growth and refinement. Far from signaling incompetence, a teacher's commitment to continued learning is the mark of the true professional. The use of portfolios can support that development in many significant ways as teachers refine their practice, both individually and with colleagues.

Enhanced Collegiality

As with any important undertaking, a teacher's success with portfolios is greatly enhanced by meeting with colleagues to explore ideas, share successes and challenges, and plan jointly. Although the professional lives of many teachers are characterized by isolation and loneli-

ness, any major initiative can provide an opportunity for educators to come together in a common cause and emerge enriched.

This collegiality requires time and commitment. As with anything worthwhile, a focus on portfolios and improved student learning does not happen by itself. The project requires the time, energy, and commitment to see it through. When educators are able to work together, the amount of individual effort is less than that required when working alone—and the rewards are much greater.

Clarity of Expectations

As teachers assist students in selecting items for a portfolio, they find they must be increasingly clear about their own standards for quality work. For example, to help students determine which of two pieces is a better representative of the genre of persuasive essay, teachers and students must identify the elements of excellence and the indicators of those elements. Similarly, if teachers are helping students select an example of nonroutine problem solving or mathematical communication, they must articulate the distinguishing features of this type of problem solving or communication. Students can assist with this process, of course, but the principal responsibility for clarity rests with the teacher.

Most teachers find that the process of explaining their expectations for student work engages them in important professional reflection, either alone or with colleagues. Most teachers, after all, have their own ideas of quality work. They may discover, however, that they have never communicated these standards explicitly to students. Furthermore, most teachers have developed their own standards privately. When they institute a portfolio program, they may find that their program is stronger if they share their criteria for high quality—not only with their students, but with one another.

The Quality of Assignments

"It became apparent early on that if I wanted variety in my children's portfolios, I had to provide variety in assignments. I have changed my (algebra) curriculum to include more problem-solving opportunities with written explanations" (Knight 1992, p. 72). This response is typical of many teachers as they move into portfolios. They

may not have recognized it previously, but many student assignments follow fairly predictable patterns: questions at the end of the chapter, problem sets, short essays in response to set writing prompts. If portfolios are used to document a wide range of student outcomes, however, assignments must be varied enough to elicit student performance on those outcomes. For many teachers, this represents a shift in focus and requires serious thought about the assignments given to students.

When some teachers embark on a portfolio project, they discover that much of the work their students are doing is not suitable for inclusion in a portfolio. Much of the currency of traditional classrooms—worksheets, word searches, questions at the end of the chapter, problem sets—would not make a positive contribution to a student's portfolio.

If the portfolio is to be used to document students' acquisition of important outcomes, the contents of the portfolio must be designed to elicit these skills and knowledge. If, for example, the outcomes call for mathematical problem solving and communication as well as computational accuracy, portfolio entries must be designed in a manner to engage students in solving problems and explaining their thinking.

For many teachers, this type of assignment represents a departure from what they have offered students in the past, and their existing instructional materials may not offer much assistance. Teachers may find that they must consult with others and search professional resources for help. Whatever is required, the bottom line is fairly clear: if teachers want their students' portfolios to represent the full range of important outcomes, students must have every opportunity to learn and demonstrate those outcomes.

Feedback on Instruction

When reviewing student portfolios (as when studying student responses to performance tasks), teachers may become aware of aspects of the curriculum that students did not comprehend as well as the teachers had assumed. Student work and student comments on that work provide a window on student learning and thinking not available through more traditional assignments and assessments. This information can be valuable to teachers as they make plans for the next phase of work in the classroom. Working with portfolios, teachers also can

become immediately aware of aspects of the curriculum in need of strengthening.

Evaluation of Student Work

When students produce items based on open-ended assignments, when performance tasks are designed to have many possible responses, teachers must attend carefully to the way those responses will be evaluated. They must ensure that the standards they apply are not overly narrow, and that the standards are communicated to (and possibly also jointly developed by) the students.

As described in books and articles on performance assessment, the evaluation of student performance requires decisions regarding criteria and standards, and the articulation of levels of performance that meet those standards. Although this work can be accomplished by teachers working on their own, dialogue with colleagues greatly enhances the experience. These conversations are extremely rewarding and teachers find that they provide focus for planning and instruction.

Research

Student portfolios afford opportunities for both researchers and practitioners to investigate many questions of interest to the profession. Because they provide authentic windows on the learning and thinking of students over time, portfolios allow educators to explore questions of instructional strategies, student reflection, and self-evaluation in ways not possible when more traditional measures of student learning are used. Although educational research has traditionally been the province of the university professor, increasing numbers of practitioners have discovered that they are ideally situated to conduct action research in their own classrooms, both contributing to the profession and receiving recognition for their efforts.

Longitudinal Research

When schools maintain student portfolios over a period of several years, practitioners can observe the long-term development of student skills and self-awareness. By examining these portfolios, educators can find answers to many questions, including:

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- Does student improvement in an area such as writing follow a steady path, or does it progress in jumps and starts?
- Are the students who excel in comparison to their peers in an early grade the same students who excel in later years? Or are there some "late bloomers"?
- Do certain approaches to teaching a given subject appear to produce more thoughtful and reflective students than others?

Any of these questions could serve as the basis of an interesting research project in which a number of student portfolios representing student development over a number of years might be analyzed.

Cross-Sectional Research

In contrast to longitudinal research, in which students or their portfolios are studied over a number of years, cross-sectional research analyzes the work of students at a given point in time. Again, many questions come to mind, such as:

- What differences in portfolios can be observed in classes where students are explicitly taught the skills of self-evaluation and those in which they are not? In other words, does teaching self-evaluation seem to make a difference in the quality of student reflections?
- To what extent can educators agree on the levels of performance represented by any randomly selected collection of student work? Without formal training, in other words, what is their degree of "inter-rater agreement"?
- Do some content areas (according to surveys of students, teachers, or parents) lend themselves more to portfolios than others?
- How supportive are parents of the portfolio concept? Does their level of support depend on a certain level of engagement with the process?

As is evident from the questions above, the possibilities for interesting research are virtually endless. And while educators may think they know the answers to some of the questions (and they may be correct in that belief), other research could doubtless provide additional insight into the ongoing process of instructional improvement. One of

the rewards of involvement in education at the turn of this next century is the professional questioning underway and the positive climate for the responsible investigation of alternative approaches.

Summary

If educators introduce portfolios into a traditional classroom and students fill them with worksheets and practice exercises, little of an educational nature will be gained. In such a classroom, students will merely collect at school (instead of at home) evidence of endless drill. And while there is a place for some work of this type, it does not enhance (nor is it enhanced by) the portfolio process.

Instead, portfolios come into their own when they are used as the stimulus for students to produce imaginative and creative work, when students are encouraged to analyze their own progress, and when they produce answers to open-ended challenges. Traditional classrooms have offered little to students in this aspect of schooling. The introduction of portfolios aids the transformation of a classroom environment from a minimalist atmosphere to one where work of high quality is valued.

4 The Challenges of Portfolios

Even the most devoted proponents of portfolios recognize that they present particular challenges to educators. Some of these challenges are inherent in the practice of maintaining the portfolios; others are related more to the technical issues involved. Both aspects will be explored here.

Practical Matters

Portfolios present a number of practical and logistical issues. Included among these are: the determination of purpose, standardization, content selection, documentation, access and storage, and family review.

Clarity of Purpose

As with virtually every other educational innovation, portfolio use is greatly enhanced if its purpose is clear. In defining the purpose, many questions must be considered, including:

- What decisions might be made based on information from a portfolio?
- Will the portfolios be used only for classroom use, to allow students to engage in reflection and self-assessment on their own work and that of other students?
- Will the portfolios be used principally to improve school-parent communication?

- Will the portfolios be used for school or district use to document student performance on state or district outcomes?
- Will the portfolios (in part or in whole) determine whether students move from elementary school to middle school, middle school to high school, or receive a high school diploma?
- Will student placement in advanced courses, gifted programs, special programs, or remedial classes be determined based on a portfolio?
- Will the portfolios be used to evaluate the quality of a program in a school or a district? Will schools be compared with one another?
- Will the portfolios be submitted to a state agency for evaluation? Will this be a high-stakes evaluation (awarding a high school diploma, for example)?

The answers to questions of purpose will determine many of the other arrangements made about the portfolios. The purpose will mandate whether and how the items in the portfolio (or the portfolio as a whole) are assessed, and by whom. The purpose will determine where the portfolios are stored, who has access to them, and when (if at all) students take the contents home with them.

No rule says that a portfolio program's purpose(s) must be established once and for all at the beginning of the project. In fact, there are many advantages to letting the purpose evolve as everyone gains experience. For example, several teachers in a school might begin to use portfolios in their own classrooms, experimenting with the technique and observing its effects on their students. If the experience is a positive one, they will want to share it with their colleagues, most of whom will be interested in the project. The original teachers may well have discovered benefits in addition to those described by others in the area of increased student motivation. They also may have been able to document student acquisition of certain district outcomes more reliably than through other means. As other teachers in the school try the process and everyone works out the inevitable bugs, the purpose might evolve to include the documentation of certain curriculum outcomes.

Meanwhile, several teachers may have experimented with using the portfolios in parent conferences or sending them home for parent

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review and comment and may have discovered some positive results. Consequently, improved communication with families can be added to the list of purposes.

Although the purposes of portfolios can and probably will evolve over time, it is important to be as clear as possible about purpose at any given point. The purpose need not be elegant or advanced. A legitimate purpose simply can be "to explore the instructional uses of portfolios in a (specific subject area) classroom." Larger issues can be left until later when teachers have encountered some of the benefits of the practice, as well as the challenges.

Logistics

Many of the logistical issues will be determined by the purpose(s) established for portfolios, but some are independent of these issues. To prevent teachers from feeling overwhelmed by the demands of a new practice, it might be helpful to consider some of the logistical matters before they become burdensome.

Standardization. Should the content of portfolios be standardized? The answer to this question will be determined largely by the purpose of the portfolios. If they are to be used for any type of high-stakes assessment, it almost certainly will be essential that they include the same contents, such as a narrative essay and a persuasive essay, each of a specific length. If they are used solely for classroom use, such standardization is not important.

Content Selection. Who selects the contents of an assessment portfolio—students or teachers, or both? To maximize the reflection benefits, it is important for students to have at least some degree of choice in selecting the items for their portfolio. In addition, teachers find that they learn much from student choices. For the documentation of outcomes or for large-scale high-stakes assessment, however, it may be essential for the teacher to select at least some of the items.

Content Documentation. As every parent knows, it is all too easy to forget when a given piece of work was produced. What parent has not encountered a box full of a child's schoolwork years after it was produced, with no indication of when or under what circumstances it was done? For school portfolios, it is essential that each piece of work be

dated and labeled with some information about the student's purpose and some interpretation of its significance.

Access and Storage. Some teachers keep the portfolios in their classrooms and devote time every few weeks to student updates. Other teachers keep only working folders in their classrooms, while the permanent portfolios are maintained in a central location until the end of the year. As described in detail in Chapter 5 (Portfolio Management), many arrangements are possible but those selected should be made to operate smoothly in the daily life of the school.

Sending Portfolios Home. Students (particularly elementary students) want to share their portfolios with their parents and other family members. Many teachers have discovered tremendous benefits from structuring a parent review of portfolios, either by sending them home overnight or arranging for student-led conferences or portfolio evenings. However, there is the additional question of the ultimate home of the portfolio. Should the portfolio become a multi-year record of a student's development, or should it be sent home at the end of each year?

As with most important questions, there is no one single right answer. Some schools organize a careful look at the portfolio at the end of each school year. The students are invited to select their best pieces, possibly with some guidance from the teacher, and the rest of the portfolio is sent home. This practice provides an opportunity for teachers, students, and parents to observe true longitudinal development while allowing parents to have plenty of evidence of their child's progress.

Making Time for Portfolios

Many educators find the prospect of portfolios quite daunting and fear that they will not have time to do justice to the approach. They think their school days are already full and they cannot possibly add another major initiative to their work with students.

Practitioners most apprehensive about the time demands of portfolios tend to regard the processes of instruction, testing, and portfolio assessment as three discrete tasks. They point out that they are already pressed for sufficient time to cover all the content of the curriculum and doubt that they could add another element to the instructional process.

If educators regard the instruction-assessment process as a single enterprise in terms of a cycle of teaching, formative assessment, and

feedback, the use of portfolios does not subtract from teaching time. Instead, it *becomes* part of the time used for teaching, part of the instructional process. Moreover, because the practice tends to engage students in their own learning, the resulting increased motivation and commitment allows classroom time to be used far more productively than before portfolios were introduced. It is precisely this change in culture that characterizes the portfolio classroom.

Measurement Matters

Some of the most vexing issues related to portfolios concern their role in the high-stakes assessment of student learning. Some states such as Vermont and Florida have organized statewide portfolio assessment programs, in which schools are evaluated on the basis of student work submitted in writing portfolios. Important questions, of course, are raised by this practice. Is one sample of writing sufficient to determine a student's level of skill in all types of writing? Is such a practice fair to all students? What if some students are familiar with the type of situation described in the prompt, while others are not? If students produce many pieces of writing, how can they all be evaluated and how should the scores be combined? In high-stakes assessment, several scenarios are possible: the individual pieces contained in a portfolio can be evaluated by the teacher, an external evaluator, or some combination of the two, or the portfolio can be evaluated *as a whole*.

Level of Stakes

Distinctions must be made between high-stakes and low-stakes assessments, and who or what these stakes affect: students, teachers, schools, or districts. If student work is evaluated to determine if students may begin high school or receive a high school diploma, this assessment is clearly high-stakes for the students. Consequently, they will be motivated to do well on the work that is to be evaluated. They may also be tempted to cheat in some way, such as to have better-prepared friends or a relative do the work for them.

High-stakes assessment is risky business and care must be taken with security and equity issues. All students must be asked to perform the same task or a task of equal difficulty. If student work is to be eval-

uated, students must know *in advance* the criteria by which their work will be judged. Tasks must be designed and instruction must be provided to allow students from all backgrounds equal opportunities to excel.

An assessment can be high-stakes for a school or district, but not for individual students, when student performance in the entire school or district is aggregated, published, and compared to another school or district. In this case, the students are not tempted to cheat because the assessment does not matter to them, but their teachers may be motivated to do so. Care must be taken to ensure that such an assessment is valid.

Some observers believe that when portfolios are used for high-stakes assessment, their other benefits (encouraging student motivation and attention to work of high quality, reflection and self-assessment, and the development of trust between students and teacher) are sacrificed. This is a serious matter and, if true, would suggest that the two most commonly mentioned purposes for the use of portfolios—instruction and assessment—conflict with each other.

But even when portfolios are used only for classroom-based formative assessment, difficult measurement issues are raised. Portfolios are not likely to be made up of multiple-choice or short-answer worksheets or tests. Indeed, teachers almost certainly will assign essays, open-ended problems, or projects.

But how should this work be evaluated and how should feedback be provided? Based on what criteria? What is the desired level of performance? Must a separate scoring guide (or rubric) be prepared for each assignment, or can a generic one serve the purpose? Should the evaluation procedures be common across an entire department (or even a whole school)? What role should students have in determining the standards?

These are large and important issues that can consume a fair amount of time for a teacher or faculty. If the faculty is new to the idea of performance assessment, it is probably a good idea to take on only one discipline or course at a time, to avoid becoming overwhelmed. Fortunately, plenty of resources are available to assist educators in designing performance tasks and teachers might do well to explore them.

Content Standardization

Should all of the portfolios from a single class or subject have the same contents, or should the contents vary according to the interests and strengths of the students? The answer to this question is related closely to the issue of purpose. If portfolios are to be assessed, especially for high-stakes individual student assessments, a certain degree of standardization is essential.

A fundamental principle of good measurement states that students should not be assessed on skills they have not been explicitly asked to display. That is, if we want to assess a student's skill in writing a persuasive essay, we must request a persuasive essay, not simply an essay. Similarly, if we want to evaluate students on their skill in formulating a mathematical problem for a situation, we cannot judge the complexity of the problem they create. If we have provided no guidance for students about the difficulty level of the problem, we cannot conclude from an easy problem that it is the best the student could have created. We simply don't know. If we are going to assess items in a portfolio (particularly with high-stakes consequences), it is essential that we provide adequate guidance and that the contents of the portfolio be standardized, at least to some extent. Without at least some standardization of content, assessors are in the position of comparing apples and oranges.

Authenticity or Authorship

The issue of authenticity has been raised persuasively by Gearhart and Herman in their 1995 article "Portfolio Assessment: Whose Work Is It?" and echoed by others in the still fledgling literature on the technical issues related to portfolio assessment. Gearhart and Herman point out that a major feature and principal strength of many portfolio efforts is their collaborative nature. Student products are based on initial student work enhanced by feedback from peers and teachers, as well as subsequent revisions. Thus, a student's portfolio entry will demonstrate how well the student can produce *when incorporating feedback from others*. If this is the outcome being assessed, this result may be acceptable. But if the goal is to assess student writing, the collaborative nature of portfolios may cloud the picture. Ironically, a student with poorly developed skills who uncritically implements all the teacher's suggestions for writ-

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ing improvement may be judged to be an exemplary writer, while a peer with better initial skills but more resistance to the suggestions of others might be judged below standard.

This issue of authorship may account for the only moderate correlations among the scores assigned to portfolios and the standardized performance-based assessments of writing reported in a 1993 study of the Vermont portfolio assessment project for the National Center for Research on Evaluation, Standards, and Student Testing. Levels of inter-rater agreement on the five areas of the Vermont writing assessment were only .43 in 1992 and have increased only modestly since then, despite attention to the training of the assessors. These results are somewhat humbling and cause thoughtful educators to question whether the portfolio concept can be made to apply to the large-scale high-stakes assessment of individual students. Ironically, just as many educators are beginning to report the positive effects of writing assessments on student performance in the classroom, the technical challenges of large-scale assessment are causing many states to retreat from their use in individual student evaluations.

Assessor Training

An important issue in large-scale performance assessment, inter-rater agreement, generally is addressed through the training of assessors. Whenever people assess performance, they must have (or must develop through training) a set of shared criteria and standards. This is not a trivial matter, particularly for teachers in an area such as writing. Most teachers have well-developed views on what constitutes exemplary writing. While some may value descriptive language, others may set a high premium on organization, and still others on voice. The principal purpose of assessor training is to clarify these elements of excellence and develop a consensus on the way they are manifested in the work of individual students. This training is generally strengthened by the availability of *anchor papers*, samples of student work illustrating the different levels of performance identified by the scoring guide.

Even with the difficulty professional educators experience in coming to consensus on the degree of a certain trait displayed in different samples of work, acceptable levels of agreement are attainable (partic-

ularly if the work requested from the students is at least to some degree standardized). Furthermore, for most practitioners, participating in assessor training is a highly rewarding professional activity. They may disagree with their colleagues, but in the course of arriving at consensus they must wrestle with very important issues of instruction and student learning. Virtually all participants report a heightened awareness of, and sensitivity toward, the issues surrounding student performance. When teachers serve as assessors, they find their commitment to teaching and to their students' intellectual growth enhanced.

Grading and Evaluation

Portfolio evaluation and grading presents a thorny question for many educators. How can portfolios be graded, using traditional approaches? Indeed, *should* portfolios be graded at all?

The grading question can be rephrased as two questions: (1) How can the individual pieces of work in a portfolio be graded? and (2) How should the portfolio as a whole be graded? Alternatively, should the individual pieces be graded, but not the portfolio as a whole?

Consider two students, each of whom has written a persuasive essay. The first student does a good job on the first draft and, after some minor revisions, the piece is placed in the working portfolio for possible inclusion later in the display portfolio. The second student also writes a persuasive essay, but that essay requires far more work (involving feedback from peers as well as the teacher) and several revisions before it attains the standard reached by the first student after a single minor revision. In the teacher's judgment, the second student has learned a great deal about the persuasive essay in the course of this process and now really "gets it."

How should the teacher grade these two students? Or, indeed, *should* the teacher grade this work at all? Assuming work of equivalent quality at the end of the writing-revision process, what grades should they receive? Certainly, clear standards and procedures are called for. It is likely that the second student has learned more through the process and may well have put forth greater effort than the first student. Undeniably, the first student's work on the first draft was of higher quality than that of the second student. But does the teacher know for sure

that the first student did not have substantial help from a parent at home? And does that matter?

Another option, of course, is for the teacher not to grade the portfolio work at all, but to treat it simply as a method of instruction. In this case, the teacher would assign a second persuasive essay, to be completed in class (in the manner of a test) and evaluate that essay for the grade. Whatever technique is used, faculty members will have to address the issue of grading and the role of portfolios in the grading process.

There are no simple answers to questions of grading, which will vary to some degree, depending on the philosophy and policies of the school and district regarding grading and progress reporting. In addition, grading practices will probably differ for students at different grade levels; what is appropriate for high school sophomores might not be suitable for 2nd graders.

Although it is hazardous to propose recommendations for grading portfolios, we offer the following guidelines:

- **Assign grades only to items in assessment portfolios.** Of course, pieces in working portfolios should be evaluated against established and public criteria by both the teacher and the student. Those evaluations should be formative in nature only, however, and should serve as the basis for further instruction.

  Items in a display portfolio are placed there at the discretion of the student, and reflect the student's own judgment of high quality work. A teacher's grade, imposed over the student's own judgment, is superfluous.

- **Evaluate items in an assessment portfolio against clear criteria using, if possible, a scoring guide or rubric which the students themselves have helped to create.** The principles at work in the evaluation of individual pieces are derived from the assessment of complex performance and involve clear and significant criteria, descriptions of levels of performance, and attention to reliability.

- **Establish clear guidelines for students about their work with the portfolio as a whole.** If students are to complete a reflection sheet for each item in the portfolio, provide instruction and modeling of the ways to accomplish such a task. If they are to engage in goal set-

ting, make sure they know how that should be done. If guidelines have been given, if instruction has been provided, and if students have had the opportunity to acquire and practice the skills involved, evaluating their performance in these areas is justified. These skills, however, are new to most students and some opportunity to learn them will probably have to be provided, with formative assessment, before students are ready to be evaluated.

• **Establish clear guidelines for evaluating assessment portfolios as a whole for completeness and organization.** If a language arts portfolio is required to contain a persuasive essay, a descriptive essay, a narrative piece, a graphic organizer, an interview and essay, and a major report, that portfolio is incomplete if one or more of those pieces are missing or incomplete. Furthermore, an assessment portfolio should be comprehensible and organized so that a reader can navigate all the different sections. Reflection sheets should be attached to their documents, earlier drafts should be clearly labeled, and all pieces should be dated. If these aspects of the portfolio are to be evaluated, however, the criteria and performance levels should be clearly articulated in advance and students must have the opportunity to learn the necessary skills.

In summary, most schools and districts have grading and evaluation policies, and a portfolio process can fit in with those policies. As with other types of alternative and performance assessment, however, portfolio evaluation should be based on clear criteria and standards known and taught to the students in advance.

Science teacher Charles Adamchik, Jr. developed a subject specific portfolio model to demonstrate (1) student goal setting, (2) growth and achievement, and (3) reflection/staff assessment (1995, p. 17). Figures 4.1 to 4.6 show his Portfolio Conference Guide sheets and the accompanying analytic rubrics for scoring them.

Getting Started

Some educators find the prospects of a portfolio system in their classroom somewhat overwhelming. Although they appreciate the potential power of such an approach, they feel overcome by the change that such a technique implies.

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FIGURE 4.1
Portfolio Conference/Assessment Guide
Chemistry Classes—Blairsville Sr. High School

Student _____ Grading Per. _____ Date _____

Question 1: Using your portfolio as evidence, show how you have demonstrated *Goal Setting* during this grade period (year, etc.).

TEACHER COMMENTS:

SCORING: (Refer to *Goal Setting Rubric*)

4 3 2 1 0

Question 2: Using your portfolio as evidence, show how you have demonstrated *Growth and Achievement* during this grading period.

TEACHER COMMENTS:

SCORING: (Refer to *Growth and Achievement Rubric*)

4 3 2 1 0

Start Small

While it is true that portfolios represent a considerable change in current practice for most classrooms, there is no reason to implement the change all at once. Probably the best advice is to *start small*. Select a single class or subject and begin with working portfolios in that one

setting. An elementary teacher might decide to try portfolios only in mathematics the first year, or in writing. A high school chemistry teacher might decide to use portfolios only in her third period class to see what happens. By starting small, an individual can experiment with different approaches to the management challenges and make adjustments along the way without confusing large numbers of students.

FIGURE 4.2
Portfolio Conference/Assessment Guide
Chemistry Classes—Blairsville Sr. High School

Student_____ Grading Per_____ Date _____

Question 3: Using your portfolio as evidence, show how you have demonstrated *Reflection and Self Assessment* during this grade period (year, etc.).

TEACHER COMMENTS:

SCORING: (Refer to *Reflection/Self Assessment Rubric*)

4 3 2 1 0

Question 4: You were asked to pick two items that you were proud of and two items you were not so proud of. What do these items tell someone about you in terms of the three dimensions of your portfolio? Use your portfolio as evidence.

TEACHER COMMENTS:

SCORING: (Refer to *Items of Work (Student Chosen) Rubric*)

4 3 2 1 0

Explore the Issues Before Diving In

Many worthwhile initiatives have been abandoned prematurely because they were not sufficiently understood, they were mandated by an external body (the district office or the state), or a school's leaders wanted to jump on the latest bandwagon to appear "forward-thinking" and progressive. While portfolios are a powerful approach to everyday classroom work and can be used to assess elusive instructional goals, they require careful exploration before a staff decides to jump in. As Graves and Sunstein point out, "We need to explore the many uses of portfolios for at least another five years, and perhaps indefinitely. Without careful exploration, portfolio use is doomed to failure. They will be too quickly tried, found wanting, and just as quickly abandoned" (1992, p. 1).

FIGURE 4.3
Analytic Rubric: Portfolio Assessment

DIMENSION: GOAL SETTING
DEFINITION: Student sets positive realistic goals for age, grade, and ability level. Implements procedures for goal attainment.

Level of Achievement	Description
DISTINGUISHED (4)	Goals are attainable and growth oriented. Implements procedures to attain goals.
PROFICIENT (3)	Goals and processes for attainment are positive, realistic, somewhat growth oriented.
APPRENTICE (2)	Some goals and processes for attainment are positive and realistic. Little growth is mentioned.
NOTICE (1)	Goals are not focused to appropriate areas and are unrealistic for abilities or present level of development.
UNACCEPTABLE (0)	No indication of goal setting.

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Start Quietly

Some school initiatives are destroyed by the spotlight. They are announced with great fanfare and big claims are made about their effects. The public awaits the results anxiously to see if the reform lives up to its expectations. Or, some members of the public may misinterpret the initiative and become critical before they understand either the intent of the reform or its potential benefits.

This recommendation to start quietly is not advice to be sneaky. Rather, educators are advised to begin in small ways, experimenting with working portfolios, advancing to a display portfolio in one area or an assessment portfolio to document important skills. None of this war-

FIGURE 4.4
Analytic Rubric: Portfolio Assessment

DIMENSION: GROWTH AND ACHIEVEMENT
DEFINITION: Students show improvement in and development of a variety of concepts and skills. Progress is demonstrated in goals in the instructional program.

Level of Achievement	Description
DISTINGUISHED (4)	Student demonstrates consistently excellent performances *or* continued improvement in performance.
PROFICIENT (3)	Student demonstrates good performance with general improvement *or* consistency in performances.
APPRENTICE (2)	Student demonstrates few good performances with numerous inconsistencies.
NOTICE (1)	Student's performance deteriorates over time *or* completely inconsistent performances.
UNACCEPTABLE (0)	No attempt made to illustrate growth and achievement.

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rants a big announcement; it is merely an attempt to achieve the school's traditional goals more effectively. Along the way, the teachers and students involved will work out the bugs in the system and discover the benefits of the approach. If families are involved in portfolio reviews, they will be convinced of the benefits as well.

FIGURE 4.5
Analytic Rubric: Portfolio Assessment

DIMENSION: REFLECTION/SELF ASSESSMENT
DEFINITION: Student includes information demonstrating various types of reflection. Judgments are established about good and not so good performances. Beliefs and performances are aligned.

Level of Achievement	Description
DISTINGUISHED (4)	Obvious examples of reflection/self assessment, include documentation and judgments. Explanations of strengths and weaknesses of work/accomplishments included.
PROFICIENT (3)	Contains numerous examples of reflection/self assessment. Some explanations of strengths and weaknesses.
APPRENTICE (2)	Contains some examples of reflection/self assessment. Few explanations of strengths and weaknesses offered.
NOTICE (1)	Little evidence of reflection/self-assessment. Judgment and documentation very limited. Little or no attention paid to strengths and weaknesses of work.
UNACCEPTABLE (0)	Absence of evidence of reflection and self assessment.

Make Time for Sharing

As with all initiatives, teachers who are using portfolios in their classrooms need time to share their results and frustrations. They will face challenges, to be sure, ranging from management issues to student resistance. It is essential that they have the opportunity to listen to one another's experiences and brainstorm solutions.

Ideally, time for sharing should occur during the regular work day. When teaching schedules don't permit this, these sessions must occur before or after school. Some schools hold these meetings on a regular basis during those weeks when the entire faculty does not meet together—for example, the third Monday of every month.

Whatever plan is chosen, it is important to schedule regular time for discussion. In addition, teachers must know that they can count on their colleagues for support. All teaching is strengthened by professional conversation and collegiality, but a new approach needs the most support.

Conclusion

Portfolios are clearly a powerful vehicle for achieving many of the educational outcomes teachers and others have for their students. However, we must attend to the logistical challenges presented by this approach and we must take care not to undermine the instructional benefits of portfolios by using them prematurely for high-stakes assessment. Most of the benefits of portfolio assessment cited by their proponents can be achieved through well-designed performance tasks without the complicating factor of a portfolio collection. It is the collection and reflection aspects of a portfolio that present most of the instructional benefits. Perhaps the best combination of practices is to institute standardized performance tasks for assessment combined with classroom use of portfolios. The work on portfolios will certainly prepare students to excel on the performance tasks, but portfolios will remain focused on what they are uniquely suited for—namely, encouraging the development of the essential skills of reflection and self-assessment, combined with pride in a job well done.

FIGURE 4.6
Analytic Rubric: Portfolio Assessment

DIMENSION: ITEMS OF WORK (STUDENT CHOSEN)
DEFINITION: Students explain how their specific work items support the three important dimensions of a portfolio: Growth and Achievement, Goal Setting, and Reflection/Self Assessment.

Level of Achievement	Description
DISTINGUISHED (4)	All items included. Clear, definite connection between items and one or more dimensions. Items serve as excellent supporting evidence.
PROFICIENT (3)	All items included. Connection shown between items and portfolio dimensions. Items do serve as supporting evidence.
APPRENTICE (2)	All items included. Connection between items and dimensions not completely clear. Items may serve as supporting evidence.
NOTICE (1)	One item missing. Items included seem unrelated to dimensions and provide little or no supporting evidence.
UNACCEPTABLE (0)	No items included *or* more than one item missing.

5 Portfolio Management

In a traditional classroom where homework and tests are returned to students upon completion, a gradebook (sometimes enhanced with electronic technology) is the only management system most teachers need. In a portfolio classroom, the management of student work and the time to deal effectively with it presents more of a challenge. Instead of numbers in a book, teachers must find ways to manage large quantities of paper and even larger projects.

Even after recognizing the potential of portfolios, many educators find the prospect of hundreds of folders, binders, or boxes daunting. Some are reluctant to attempt portfolios, convinced that they will find the entire experience overwhelming. Others have been heard to comment (only slightly in jest) that they are convinced that the real proponents of portfolios are the manufacturers of file cabinets! Regardless of how portfolios are used, serious attention must be paid to their associated management challenges.

Containers

The first logistics problem that most teachers confront is that of storage. When beginning with a working portfolio, there are a number of possibilities for storing the papers or other examples of student work.

Manila Folders

A good place to start is with a number of manila folders, one for each student in the class. Although the folders tend to wear out quick-

ly, they are a simple way to start the portfolio process. One advantage of manila folders is that they lend themselves to student decoration, an activity which helps to engage students to develop pride in their work. Unless the folders are stored in a larger container such as a box, however, there is a danger that student work will fall out.

Hanging Folders

Hanging folders are an excellent choice for a working portfolio. If stored in either a crate or a large box, students have easy access and can drop things into them. Depending on their construction, however, hanging folders may not lend themselves to student decoration as well as manila folders.

Two-Pocket Folders

Some folders have two pockets, one on each side when the folder is open. These are somewhat stiffer than a manila folder, but less durable than a hanging folder. The pockets allow students to separate their pieces into two categories, representing different types of work (persuasive essays and narrative essays or final form and stages of revision). Two-pocket folders may be decorated by students, on the outside and each inside pocket. These folders also must be stored in another container such as a box or a crate.

Expanding (Accordion) Files

Expanding files are somewhat more durable than manila folders and can be purchased with dividers to facilitate the organization of the portfolio. In addition, these files are free-standing and can be stored on a bookshelf. Expanding files can be closed so that the items do not fall out, but their surface may not lend itself to easy decoration.

Boxes

Boxes are an appropriate container for a working portfolio or a display portfolio. Some are more suitable for younger children because they require less manual dexterity to use than manila folders or accordion files. Moving papers in and out of boxes uses gross motor skills, while an accordion file can require more sophisticated fine motor skills.

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Many different kinds of boxes may be used for a portfolio. Cereal boxes with their tops cut off can serve as an excellent receptacle for portfolio materials. Boxes of uniform size may be stacked easily, facilitating storage. Pizza boxes have the additional advantage of a connected top that cannot get misplaced. Boxes also have the appealing advantage of several surfaces that can be attractively decorated.

Ring Binders

The ring binder is a good receptacle for portfolio materials and may be used for both display and working portfolios. A ring binder is durable and may be equipped with dividers or folders with pockets to help students keep their materials organized, allowing the storage of unusual or odd-sized pieces. A ring binder also is attractive because it allows students to add and subtract items simply by opening the rings. (Very young students may need help with the rings.) In most cases, a drawing usually can be attached to the front of a ring binder, although sometimes the cover is not suitable for decoration.

Electronic Storage

Some commercial publishers now have programs available to store student work electronically. These have the obvious advantage of allowing huge quantities of paper to be stored in a very small space. For long-term storage and for student work to be kept in an archive, electronic storage is well worth exploring. The main drawback to electronic storage, however, is the fact that most students, teachers, and parents value the experience of looking at the actual student work, of holding the paper in their hands, and comparing two pieces of work to one another.

Classroom and School Portfolio Management

Finding containers to store student work is only the beginning of the challenge of portfolio storage. Next, the teacher must determine where to store the folders, boxes, or binders in the classroom. If the portfolios are to follow students throughout their school careers, a system must be devised to maintain the containers from one year to the next.

Ownership

Ownership is an issue to consider. Who owns the portfolios? The student? The school? The district?

Portfolios generally belong to the student, except in the case of state-mandated assessment portfolios usually submitted to a central agency for scoring (and only rarely returned). Students own the work in district assessment portfolios used to determine proficiency in the district curriculum, even though these portfolios might remain in the school until they are evaluated and the results recorded.

Students also own the work in display portfolios where they have selected and displayed their best work from one year to the next. However, any portfolios showing longitudinal growth must be stored in the school, to ensure that they are not lost. These portfolios will be reviewed each year and only a few items will be retained. Any items not saved can be sent home with the student. Of course, when students leave the school—when they transfer to another district, or when they graduate—the portfolio leaves with them.

Classroom Storage

Many teachers are apprehensive about finding classroom space for portfolios. Most classrooms are crowded places without the additional burden of finding a location for a box of folders. For teachers at the secondary level who may have five or six separate classes, the prospect of five or six cartons is not appealing.

Nevertheless, access to portfolios (particularly working portfolios) is important to the portfolio concept. A working portfolio is just that, a holding tank for work in progress. Students must be able to get access to their portfolios at will, to add items, or to remove pieces to work with. If portfolios are stored in an inaccessible spot, students will not acquire the habit of referring to them often.

On the bright side, a carton containing 25–30 folders does not require a great deal of space. If file boxes with lids are used, they may be stacked on top of each other, requiring very little floor space. Alternatively, the portfolios for different classes may be stored in different drawers of a file cabinet, making access by students very easy.

School Storage

If display portfolios follow students from year to year, provisions must be made to store the portfolios in the school. Although the amount of material for each student is not great, the space requirement is significant for hundreds of students. In addition, students and teachers must be able to gain access to their portfolios, at least on an infrequent basis.

There are no easy solutions to this problem; each school will have to find its own method. Organization and careful labeling are essential. Sometimes a bank of boxes or file cabinets may be placed in the school library or along a wall of the office. Some schools have storage closets large enough to accommodate a row of boxes. Whatever the approach, teachers must be able to retrieve the portfolios at least once a year so that student material may be added before the portfolio is sent along to the next teacher.

Portfolio Transfers

What happens to portfolios at the end of the year? How can they be managed so that teachers are not overwhelmed with the challenge of moving them from one teacher to another?

If the portfolios are to be maintained by the school from year to year, a system must be devised to ensure that they are stored over the summer and delivered to the teachers who need them the following year. Within a school, this is a relatively simple matter; the portfolios can be collected and reorganized according to the classes in which the students will be located the next year. Alternatively, the teachers can meet to distribute the portfolios to the next year's teacher. As part of this distribution, the new teachers can look at the students' work and learn a little about their future students.

When students move from one level to another (from elementary to middle school, or from middle to high school), the portfolios must be shipped to another building. In addition, some students will change schools, making it necessary for their portfolios to be sent to the new schools. It helps to designate an individual to manage this process, to ensure that the portfolios are not misplaced or buried in the back of a storage closet.

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Portfolio Organization

One challenge facing educators as they move to portfolio use is the organization of the portfolios. Without a structure, a portfolio consists merely of a collection of work, and a reader will have no idea what is there or what it means.

Documents

The documents and other works (slides, videos, etc.) contained in a portfolio are determined by the type of portfolio and its purpose. As discussed in Chapter 1 (The Types of Portfolios), the contents of a working portfolio are different from those of an assessment portfolio, and the contents of a display portfolio are different from both of those.

A working portfolio will contain all student work related to a particular topic, such as graphing information or a unit on traditional native American life. An assessment portfolio, on the other hand, will contain samples of student work documenting students' acquisition of important knowledge and skill. A display portfolio, by contrast, will include any piece of work the student wants to exhibit to others.

Dates

The first rule for portfolio organization is to make sure that each piece of work is dated. When students drop essays into a working portfolio or when they select pieces for a display portfolio, these pieces should be stamped with the date they are completed. Dating is particularly important when several drafts of the same work are included. Each draft should have its date noted.

Students are generally delighted to take care of this chore themselves, especially with a date stamp. The stamps are fun to use and students enjoy noting their time of completion. In addition, attaching a date to a piece of work and inserting the work into a portfolio is a student's way of announcing that the work is complete, at least for the moment.

Labels

As every parent knows, many details of important items may be forgotten over time. Most parents and their children have had conversations about photographs in which they ask, "Was that taken in 2nd grade

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or in 3rd?" Similarly, it is easy to forget what the pieces of work in a portfolio represent and what students were asked to produce (a descriptive essay or an application problem in probability).

Therefore, each piece of work in a portfolio should be identified with a date and an identifying statement or label. In some cases, the piece may be self-explanatory. For example, a piece entitled "Dangers to our Local Environment" may be original work by the student that required surveys, interviews, and primary source information. On the other hand, the piece may be a summary of an article the student read. The reader can draw more accurate conclusions about the quality of student work if background information is provided. Similarly, if several drafts of a single piece of writing are included in the portfolio, these should be attached to the final draft and identified as Draft One, Draft Two, etc.

Labeling is clearly essential in a large portfolio, as it enables the reader to easily navigate through the portfolio, making sense of each piece.

Reflection Sheets

For each piece of work selected for a display portfolio, and possibly for an assessment portfolio as well (depending on the structure), each document should have a reflective comment attached. If a single piece of work is put into the portfolio along with earlier drafts, a single reflection for the entire series generally is sufficient. In the experience of many educators, this step is the most important in the entire portfolio process. It is described in some detail in Chapter 2 (The Portfolio Development Process).

On the reflection page, students indicate why they selected a piece of work, what it shows about them, what they like about it, and what they would do differently if they had the opportunity to redo it. Many teachers discover that students become increasingly insightful in their comments about their work as they gain experience with reflection.

As a technique to facilitate the process, many teachers prepare reflection sheets in advance, with reflection questions written on them. These forms can save time and energy, allowing students to be more independent in their work.

Goal-Setting Prompts

Goal-setting charts are designed to facilitate the process of *projection*, building on a student's statement of purpose for a unit of study and an evaluation of the extent to which goals were met. While goal-setting charts may be included in a working portfolio, they are far more common in a display or an assessment portfolio.

Teachers generally help students structure their goal-setting by providing prompts for their response. The prompts will vary, but probably will include items such as those listed in Figure 5.1.

FIGURE 5.1
Goal Setting

To be completed at the beginning of the unit

My short-term goals for this unit are:

_____

_____

My long-term goals for this unit are:

_____

_____

To be completed at the end of the unit

I have reviewed my short-term goals for the unit. Here is my evaluation of the extent to which I met them:

_____

_____

I have reviewed my long-term goals for the unit. Here is my evaluation of the extent to which I met them:

_____

_____

A slightly different type of goal statement might take the form of "I have reviewed my short- and long-term goals. Here are some things I am getting better at: _____." or "I have reviewed my short- and long-term goals. Here are some things I still need to work on: _____."

Student goal setting is facilitated if the goal-setting prompts are prepared by the teacher and duplicated in advance. In this way, students can become independent in their use of portfolios, selecting the particular goal-setting questions that are appropriate to the situation.

Comments from Other Audiences

Comments from audiences such as other students, parents, and teachers are sometimes included in a portfolio. These comments may be produced spontaneously and written on fairly large sticky notes. Alternatively, the teacher may prepare reaction sheets in advance and provide them when the portfolios are reviewed. Either strategy facilitates the reaction process and offers guidance to the students.

Keep in mind that the reaction sheets may have to be structured to reflect a reader's age and experience. Younger children and parents who have never seen a portfolio may need very different prompts than more experienced readers. Sample prompts and a possible format are provided in Figure 5.2.

Table of Contents

For display or assessment portfolios (or any portfolio designed to be examined by others), it is helpful to include a table of contents. As in a book, this page orients the reader to the material contained in the portfolio.

In addition, the table of contents can serve an important function for students by outlining expectations. An 8th grade assessment writing portfolio, for example, may be expected to include a descriptive essay, a persuasive essay, an expository essay for science and one for social studies, and a description of the solution to a mathematical problem. A table of contents can list these items and students can check them off as they are produced at an acceptable level of proficiency. In this way, the student and teacher can instantly see both met and unmet expectations.

FIGURE 5.2
Reaction Form for Portfolios

A feature of this portfolio I particularly like is:

_____

_____

In this portfolio I see evidence of improvement in:

_____

_____

This year my child has improved in:

_____

_____

I would like for my child to be able to:

_____

_____

Introduction

An introduction to a portfolio requires that students reflect both on individual pieces of work and the portfolio as a whole. Generally written for display portfolios, introductions give students an opportunity to consider all the documents and interpret them for the reader, including the extent to which the student's goals were met, the growth the student observed over time, and what the collection says about the student's work as a whole.

An introduction is an important document for the reader of a portfolio because it provides an indication of the way the portfolio's author regards its contents. The introduction's primary purpose, however, is to allow students to engage in high-level reflection. To prepare an introduction, students must pull together the individual pieces and synthesize them to make sense of the body of work as a whole. Students must see the portfolio as a single entity and interpret its meaning in light of their own goals for learning. Many teachers find that students who have written introductions to their portfolios develop even greater pride in their work than they had previously. The introduction seems to cement their sense of themselves as learners and workers.

Title Page

The last item produced for a display portfolio is generally the title page. This page announces to the reader what is contained inside, such as "Writing Portfolio, Grade 2," "Community Service Project," or "Problem-Solving Portfolio." The title page can be decorated by the student to individualize and personalize it.

Management Tools for Portfolios

Management tools that will facilitate the portfolio process include:

- boxes, file folders, pocket folders, or ring binders for the storage of student work
- a rubber stamp for dating items
- sticky notes for spontaneous audience reaction comments
- pre-printed forms for student reflection, goal setting, and audience reaction
- labels

Organizing Items in the Portfolio

All portfolios—regardless of whether they are working, assessment, or display portfolios—share many organizational elements. The degree of structure may vary, however, because they have very different audiences. A working portfolio needs very little formal reflection or structure because it serves as a holding tank for student work. An assessment

portfolio, particularly one to be read by others, must have a structure that is clear and easy to understand. A display portfolio may have any structure its author finds suitable for its content.

Options for portfolio organization include: order of quality, chronology, content areas, skill areas, and student choice.

Ascending or Descending Order of Quality

If a student places documents in a portfolio in order of ascending quality, the portfolio as a whole will demonstrate growth over time. The effect on the reader can be quite dramatic and often will be a source of pride for the student. On the other hand, if the best works are placed first, the student is able to show at the start the pieces of which he or she is most proud, followed by samples of work that have been exceeded in quality.

Chronology

A portfolio also can be sequenced chronologically. In most cases, this sequence will mirror that of ascending quality. There may be instances, however, in which students have produced their best work early in the year. A chronological sequence will make such situations evident.

Content Areas

An organization by content area is most appropriate when the portfolio is used to display work from an interdisciplinary unit. If students have created a portfolio on the topic "Change in our Community," some of the entries might reflect skill in mathematics, while others show the students' understanding of social studies concepts. The pieces could be organized in this manner.

Skill Areas

Portfolios offer tremendous flexibility in highlighting student growth, particularly by documenting a student's acquisition of a particular skill. Skill areas covered in a portfolio could include interviewing techniques, data collection, research techniques, or communicating mathematically.

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Student Choice

Of course, students may create their own organization for their portfolio. This approach requires that students reflect on the portfolio as a whole and determine what message they want to convey. By deciding the story to be told by the portfolio, the student assumes yet more control over her or his learning. For this format, it is essential that the student present a rationale for the sequence of selected items.

Sequence of Portfolio Items

The sequence of items in a completed portfolio is as follows:

- Cover or title page
- Table of contents
- Introduction
- Actual pieces or documents, each accompanied by an explanation of the assignment and a reflection sheet
- Goal-setting chart

Summary

The success of any portfolio project is critically tied to organization and management. Educators who don't attend to the many practical and logistical details may find themselves overwhelmed with the sheer number of items to track. When well-organized and integrated into the culture of the school, however, portfolios make a substantive contribution to student achievement by engaging students with greater responsibility for their learning and greater pride in their work.

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Founded in 1943, the Association for Supervision and Curriculum Development is a nonpartisan, nonprofit education association, with international headquarters in Alexandria, Virginia. ASCD's mission statement: *ASCD, a diverse, international community of educators, forging covenants in teaching and learning for the success of all learners.*

Membership in ASCD includes a subscription to the award-winning journal *Educational Leadership*; two newsletters, *Education Update* and *Curriculum Update*; and other products and services. ASCD sponsors affiliate organizations in many states and international locations; participates in collaborations and networks; holds conferences, institutes, and training programs; produces publications in a variety of media; sponsors recognition and awards programs; and provides research information on education issues.

ASCD provides many services to educators—prekindergarten through grade 12—as well as to others in the education community, including parents, school board members, administrators, and university professors and students. For further information, contact ASCD via telephone: 1-800-933-2723 or 703-549-9110; fax: 703-299-8631; or e-mail: member@ascd.org. Or write to ASCD, Information Services, 1250 N. Pitt St., Alexandria, VA 22314-1453 USA. You can find ASCD on the World Wide Web at http://www.ascd.org.

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An Introduction to Using *Portfolios*

In the Classroom

As recently as the early '90s, portfolios began to appear in the classroom to support a variety of activities, from helping students and teachers set goals to helping teachers and administrators assess curriculum needs.

For many educators, the portfolio process offers a clear strategy for the achievement of important classroom objectives. According to accounts from both researchers and practitioners, portfolios can:

- engage students in learning content,
- help students learn the skills of reflection and self-evaluation,
- document student learning in areas that do not lend themselves to traditional assessment, and
- facilitate communication with parents.

This practical guide provides a useful resource for educators who would like to begin using portfolios in the classroom. In a concise format, the authors examine the many uses of portfolios and offer guidance on strategies to increase the effectiveness of this process in assessment and instruction.

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